सत्यमेव जयते

Report of the Comptroller and Auditor General of India

Performance Audit of Select District Hospitals in Arunachal Pradesh

for the year ended 31 March 2019

लोकहितार्थ सत्यनिष्ठा
Dedicated to Truth in Public Interest

Government of Arunachal Pradesh

Report No. 2 of 2020

Report of the Comptroller and Auditor General of India

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Preface

This Stand Alone Report of the Comptroller and Auditor General of India containing the results of Performance Audit of Select District Hospitals in Arunachal Pradesh for the period 2014-19 has been prepared for submission to the Governor of Arunachal Pradesh under Article 151 of the Constitution of India.

District Hospitals are setup for providing a plethora of services for preventive, diagnostic and curative healthcare to the people in the districts, at an acceptable level of quality. The focus of audit is to assess the role of District Hospitals in providing the envisaged health care services to the people in an affordable and timely manner and of the expected quality standards and norms.

Audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

About the Report:

The Report is about the Results of Performance Audit of Select Public Health facilities of secondary care (District-level Hospitals) and primary care (one CHC and one PHC) in the State of Arunachal Pradesh. We covered the period from 2014-15 to 2018-19. The audit examination included records maintained in the office of Secretary, Health and Family Welfare, Director of Health Services (DHS), Mission Director of National Health Mission (NHM), records of District Medical Officers (DMOs), Medical Superintendents (MS) of five selected District Hospitals, Medical officer of one CHC and one PHC.

What has been covered in this audit?

In this Performance Audit we have focused on the patient care given by the primary and secondary care levels in the State. We assessed the availability of basic infrastructure facilities in the State, adequacy of manpower in the selected District Hospitals and various services provided therein like Out Patient and In-Patient Services, Maternity Services, Emergency Services, Drug Management, Infection Control, Bio-medical Waste Management, Diagnostic Services, Fire Control measures etc, based on pre-determined performance indicators/ criteria in the sampled district level and block level hospitals (CHC & PHC). We have adopted Indian Public Health Standard (IPHS) prescribed by the Government of India and adopted by the Government of Arunachal Pradesh which are a set of uniform standards envisaged to improve the quality of health care delivery in the country as well as State norms as applicable for benchmarking various audit findings.

What have we found?

We found significant areas for improvement in the healthcare needs of the people as highlighted below.

Financial Resources

The average budget allotment and expenditure of the Health and Family Welfare Department against the overall State Budget and expenditure during 2014-19 was 5.60 *per cent* and 5.85 *per cent* respectively even as the National Health Policy, 2017 envisaged allocation of at least eight *per cent* of the total budget of the State for Health Sector. The State Government made highest provision of 6.62 *per cent* of its Budget during the year 2018-19 on health outlay. The State spent very little on strengthening/ providing health infrastructure, capital expenditure being merely four *per cent* of the total health expenditure incurred during 2014-19. The Department did not utilise the allocated funds optimally during the five-year period 2014-19, with the savings ranging from ₹ 77.93 crore (12 *per cent*) in 2014-15 to ₹ 658.74 crore (37 *per cent*) in 2018-19. Due to persistent savings of funds under the State budget and also funds under NHM, the secondary healthcare facilities in the State suffered from inadequacy of physical infrastructure, shortage of drugs, equipments, specialist services, emergency and other diagnostic services.

The composition of Revenue Expenditure during the period was 57 *per cent* on human resources (salary); two *per cent* on procurement of drugs/ medicines and 41 *per cent* towards 'Others'. It is observed that expenditure under 'Others' which comprised mainly of Office Expenses, POL, Motor Vehicles etc. has increased by 132 *per cent* from ₹ 220.84 crore in 2014-15 to ₹ 512.82 crore in 2018-19, while there was a sharp decline in expenditure on drugs and medicines from ₹ 34.72 crore in 2014-15 to ₹ 16.90 crore during this period and in 2015-16 it was as low as ₹ 1.48 crore.

Further, Medical Superintendents (MS) of District Hospitals in the State were not delegated any financial power to deal with emergency situations/ stock-outs.

We therefore recommend that the Department should not only further increase its spending on healthcare, but also focus on increasing its expenditure on capital items / creation of infrastructure and on procurement of essential drugs.

(Paragraph 2.1.1, 2.1.2, 2.1.5)

Funds under National Health Mission (NHM)

Out of the total available fund of ₹ 1562.51 crore under NHM (a CSS programme) during 2014-19, the Mission Director NHM utilised ₹ 776.46 crore only i.e. the expenditure was 50 *per cent* and the unspent funds during 2014-19 ranged between 39 to 65 *per cent*. Utilisation of funds of 50 *per cent* indicated poor / non-implementation of various important National Health Programmes.

(Paragraph 2.1.4)

Recommendations

- *The State Government may enhance the budget provision and expenditure on healthcare services to ensure that adequate and quality healthcare services are provided to the people of the State; and*
- *The State Mission Director, NHM may enquire the reasons for suboptimal or no spending on specific health programmes being administered in the State and ensure optimum utilisation of funds received under various National Health Programme through effective implementation and monitoring.*

Essential Resources Management

Shortage of Doctors, Nurses and Paramedical staff

The Health Department did not have any centralised database of the sanctioned strength and deployment of doctors, nurses and other paramedical staff in the health care facilities in the State. In 2015-17, the Government sanctioned 525 post of doctors, 2081 of paramedical staff of which 2310 were filled up leaving a shortage of 296 including 208 doctors which meant a 40 *per cent* vacancy. In test checked DHs, Seppa faced maximum shortage (59 *per cent*) of doctors followed by Tezu (34 *per cent*) and Daporijo (31 *per cent*) whereas there was excess deployment at other two DHs. As regard nurses, the test checked hospitals had an overall shortage of 47 nurses (15 *per cent*) with Seppa having maximum shortfall of 36 *per cent* followed by Pasighat (16 *per cent*), TRIHMS (15 *per cent*) and

Tezu (9 *per cent*). Similar situation was in the case of para medical staff wherein Seppa faced shortage of 67 *per cent* followed by Tezu and Daporijo (36 *per cent* each). Though there was an overall increase of 12 *per cent* in out-patient load in the test-checked hospitals over the five year period, the Department could not fill the posts of medical and paramedical staff resulting in immense pressure on the existing healthcare system, which would affect the quality of health care services.

(Paragraph 3.2, 3.2.1, 3.2.2)

Non availability of District Hospitals in 12 districts

Out of 25 Districts, only 13 Districts have functional District Hospitals and the remaining 12 (48 *per cent*) didn't have any DH and thus, people of the districts were deprived of Secondary healthcare in their own districts.

(Paragraph 3.3.1)

Recommendations

- *The State Government may take steps to provide requisite manpower as per IPHS norms considering patient load in DHs and also rationalise the deployment of available medical/paramedical staff in view of the inequitable deployment of manpower across DHs.*
- *The State Government may ensure setting up of district hospitals in the remaining districts or strengthen the existing healthcare facilities by equipping them with necessary infrastructure so that secondary healthcare services may be available to the citizens in their district itself.*

Drug Management

The Health Department did not ensure timely procurement and supply of Drugs to DHs. There were serious shortages in availability of essential drugs. Testing of drugs was delayed and the Health Department did not insist upon quality test reports for drugs supplied.

(Paragraph 3.5, 3.6)

Recommendation

- *The State Government may make it mandatory for suppliers to furnish quality report for medicine supplied from NABL, so as to ensure quality drugs to patients.*

Delivery of Healthcare Services

Out Patient Department Services

Three test checked DHs namely TRIHMS, Tezu and Pasighat had inadequate registration counters. The sampled hospitals did not have basic facilities for the public like proper signage, toilets, potable water etc. The registration of patients was not computerised in two DHs. Referral cases were also not computerised. Against the provision of 12 specialist services in OPD, services were largely not available in four DHs with maximum shortage at Seppa (7) followed by Daporijo (6), Tezu (5) and Pasighat (2).

(Paragraph 4.1.2, 4.2, 4.2.1, 4.3)

Recommendations

- *The State Government may take steps for computerisation of Registration process with increase of OPD counter as per patient load;*
- *The State Government may ensure availability of basic facilities/ service, Signage in the OPD of each hospitals as prescribed in the Assessor's Guidebook for Quality Assurance of Services in District Hospitals, 2013 (Vol-1).*
- *The State Government may ensure availability of all 12 specialist services as per IPHS norms.*

In Patients Department (IPD) Services

IPD Services were not comprehensive, since centre/units for Accidents & Trauma, Burn, Ophthalmology, Orthopaedics and Psychiatry were not available in any DHs while Dialysis service was available only in GH Pasighat and TRIHMS. Further, Seppa, Tezu and Daporijo DHs could not provide any surgical intervention in ENT/Surgery for the want of specialist doctors and functional OT. Due to non-availability of all in-patient services, the DHs failed to provide comprehensive health care services to the people and they were compelled to go outside from their respective districts/state to avail healthcare service.

Doctors were not available in IPD round the clock in any of the test checked DHs for providing various indoor health care services.

(Paragraph 4.4.1, 4.4.2)

Operation Theatre (OT) Services, ICU and Trauma Care Centre

Operation Theatre (OT) services were not functional in one DH (Seppa) due to non-availability of OT coupled with non-deployment of surgeon. Emergency OT services were not available in any hospitals barring one DH (Pasighat). The essential drugs and equipment in OTs were short in respect of all hospitals. Documentation of surgical procedures such as surgical safety checklist, pre-surgery evaluation records and post-operative evaluation records for OTs were not prepared in any of the test-checked DHs.

Intensive Care Units Services (ICUs) and Trauma Care Centre were not available in any test checked hospitals and thus, patients approaching district hospitals despite being in an emergent and critical condition had to be referred to higher facility, public or private hospitals in other states thereby exposing them to risks of delayed care. Emergency Services were inadequate as none of the sampled DHs except one DH (TRIHMS) were provided with life saving instruments such as Ventilator, Multi-parameter monitor and Cardiac monitor, defibrillator to treat critical patients.

(Paragraph 4.6, 4.7, 4.8)

Diagnostic services (Radiology and laboratory services), Patient rights, safety and grievances redressal

The diagnostic services in the test checked hospitals were inadequate to the extent that the test-checked DHs were neither having all prescribed radiology services nor pathology

services. As regards laboratory equipment, in test checked DHs, availability of essential equipment ranged from 19 to 77 *per cent*, thereby impacting the availability and timeliness of comprehensive diagnostic services to the public. There was no quality assurance of the laboratory services of DHs for want of external assessment/validation of the services and non-conduct of periodic calibration of testing equipment.

Further, fire safety of patients, attendants, medical personnel and the hospital buildings had not been ensured by the concerned Hospital administration. Grievance Redressal Committee/Cell did not exist in all the hospitals except TRIHMS.

(Paragraph 4.10.1, 4.10.2, 4.10.3, 4.10.4, 4.11, 4.12)

Recommendations

- *Government may proactively synergise availability of specialised in-patient services along with the essential drugs, equipment and human resources in district hospitals.*
- *OT, ICU and Trauma care services be made available in all the DHs with required manpower, equipment and drugs.*
- *The availability of round the clock doctors and nurses in DHs needs to be ensured.*
- *The quality of diagnostic services which are crucial for patient care and treatment be made comprehensive as per requirements. The State Government/hospital administration must ensure availability of all essential equipment*
- *The quality assurance mechanism for diagnostic services may be put in place for all DHs.*

Support Services

Storage and management of drugs

The prevailing system of storage of drugs in the test-checked hospitals was neither conducive for orderly storage nor as per norms/ parameters making the drugs susceptible to damage, contamination and theft. Expired drugs were not segregated. The hospital administration had neither put in place any system for orderly storage of drugs nor monitored the storage and issue of drugs periodically.

(Paragraph 5.1, 5.1.1)

Infection Control, Bio-Medical waste management and Ambulance Services

Audit noticed absence of institutionalised mechanism for Infection Control in the DHs. SOPs for infection control were not available in any test-checked DHs. There were no records of regular rodent and pest control measures in DHs. Further, training of healthcare workers in patient safety, infection control and bio-medical waste management was neither conducted nor their periodic check-up and immunisation carried out in any DHs except Pasighat, putting them at-risk of contamination.

Bio-medical waste management plants were lying non-functional and defunct in all five DHs except Pasighat.

Laundry services were also highly inadequate as there was a shortage/non– availability of 13 to 21 types of prescribed linen items in the hospitals ranging from 22 *per cent* (TRIHMS) to 91 (Daporijo) coupled with inadequate space for storage for linen; bed sheets were not changed nor soiled linen collected on a daily basis in several hospitals, increasing the vulnerability of patients to hospital acquired infections.

Ambulance services were weak as ambulances were not equipped with essential equipment. Separate ambulance viz. 102 for general patients, pregnant women etc., and 108 for Emergency Patient Transport was not available.

(Paragraph 5.2.1, 5.2.2, 5.2.3, 5.3.1, 5.3.4, 5.3.5, 5.4.1, 5.4.2, 5.4.3, 5.5)

Recommendation

- *Storage of drugs under conditions prescribed in the Drugs and Cosmetics Rules 1945 to maintain their efficacy should be ensured, before being administered to the patients.*
- *The infection control mechanism may be embedded in hospital through proper monitoring by HICC, pest and rodent control, by adopting all methods of sterilisation prescribed, microbiological survey, proper immunisation and medical check-up of staff and training.*
- *The BMW Rules may be adhered and followed rigorously to provide an infection free environment in the hospitals.*

Maternal and child care service

The IMR in the State drastically increased from 30 (2014) to 42 (2017) and came down to 37 in 2018. It remained below the national figures in 2014 and 2015 and bypassed the national IMR from 2016 onwards. Like the birth and death rates, the IMR is more pronounced in rural areas. The increase in IMR inter alia, is reflective of deficient maternal and child care health activities. Though MMR is not available for the State due to low population, the State Government neither conducted any survey during 2014-19, to monitor the mortality of infants and women during childbirth nor did it fix specific goals/targets for reduction of MMR and IMR.

The ANC of pregnant women was not satisfactory. Only 57 and 41 per cent pregnant women visited DHs for 1st and 2nd round of TT immunisation respectively. Further, only three per cent women were given Iron Folic Acid tablets. Prescribed medicines were not available for management of RTI/STI in any of the test-checked hospitals during 2014-19.

Audit observed that out of the test-checked five DHs, Comprehensive Abortion Care (CAC) and C-Section delivery facilities were not available in DH Seppa for want of medical officers. Mothers were discharged within 48 hours of delivery exposing both mother and child to risks. As many as 196 pre-term babies were exposed to the risk of serious post-natal complications and neonatal deaths due to non-administration of Corticosteroid to the mothers. None of the test-checked DHs had achieved 100 *per cent* immunisation of the four Zero day vaccines.

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

(Paragraph 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.10, 6.1.11, 6.1.12, 6.1.14)

Recommendation

- *The State Government may conduct survey to monitor MMR and IMR and fix targets to reduce them. This can be achieved to a great extent by providing adequate and timely ANC and PNC to all pregnant women.*
- *The Government may ensure that the hospitals are equipped completely with all the essential equipment for child deliveries and new born baby care.*
- *Ensure availability of facilities of C-section delivery and Comprehensive Abortion Care at Seppa*
- *The State Government may ensure immunisation of all new born babies.*

Cancer and HIV treatment management

The number of cancer incidences in the State had increased from 369 in 2014-15 to 3484 in 2018-19. Cancer incidence rate is highest in Papumpare district in females and second highest in males in India. Cancer of stomach, liver and Oesophagus were common in men (52.2 *per cent*) whereas amongst women, stomach, cervix and breast cancer contributes 37.5 *per cent* of all cancer cases.

Despite growth of disease at alarming rate over the years, the department failed to ensure availability of diagnostic facilities at DHs as out of five DHs, screening facility was available in only two DHs namely Pasighat and TRIHMS. Palliative care was also not available in DHs and therefore patient had to visit lone Tertiary Cancer Care Centre (TCCC) at Naharlagun incurring extra expenditure on journey and incidentals. The department also failed to formulate any strategy and plan for Information, Education and Communication (IEC) and Behaviour Change Communication (BCC) to create awareness in the State against the disease and for timely diagnosis.

Though the Project Director, APSACS had incurred an expenditure of ₹ 4.29 crore during 2014-15 to 2017-18 on IEC activities for spreading awareness about HIV, adequate documentation of expenditure of ₹ 1.60 crore was not found. The absence of supporting document cast doubt over the implementation of IEC activities for HIV awareness.

(Paragraph 6.2.2, 6.2.4, 6.2.5, 6.3.3)

Recommendations

- *Screening facilities for early detection and treatment of cancer may be provided adequately in all the DHs.*

- *The State Government may formulate strategy and plan for Information, Education and Communication (IEC) and Behaviour Change Communication (BCC) to create awareness in the State against both the diseases.*

What has been the response of the Government?

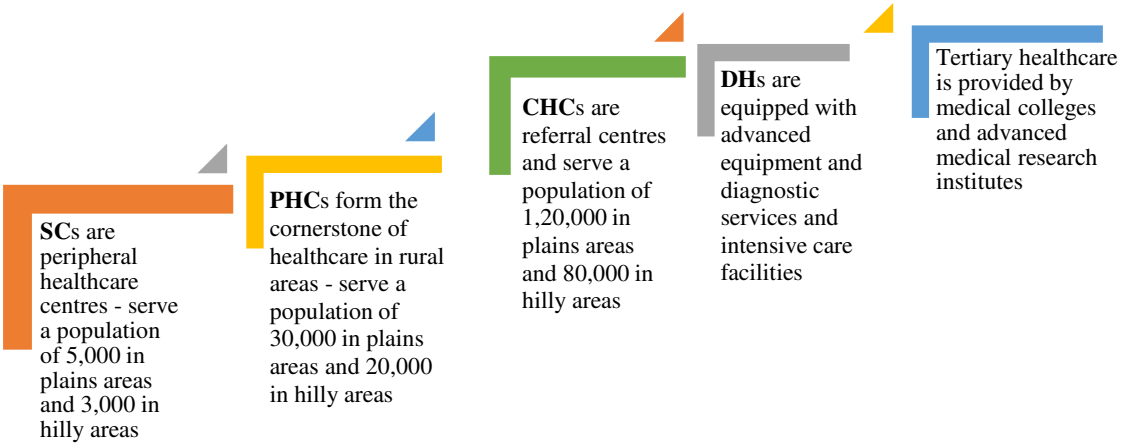
The Government did not give formal replies to the report and recommendations. However, the response of the Secretary to Government during the exit conference has been suitably incorporated in the report along with the initial responses of the Department. The Secretary agreed that there is scope for improvement in Primary and Secondary healthcare in the State.

Chapter 1: Introduction and Audit Framework

1. Introduction:

Public healthcare delivery system in India is organised at three levels - primary, secondary and tertiary. The vast network of Sub-centres (SCs), Primary Health Centres (PHCs) and Urban Primary Health Centres (UPHCs), and Community Health Centres (CHCs) form the primary tier of public healthcare delivery system for rural and urban population respectively. These health centres provide preventive and promotive services like immunisation, epidemic diagnosis, childbirth and maternal care, family welfare, etc. District Hospitals (DHs) serve as the secondary tier for rural and urban population. These hospitals handle treatment and management of diseases or medical conditions that require specialised care. Tertiary healthcare involves providing advanced and super-speciality services and is provided by medical institutions in urban areas, which are well equipped with sophisticated diagnostic and investigative facilities. The ascending levels of healthcare facilities are shown in the Chart given below:

Chart 1.1: Levels of healthcare facilities

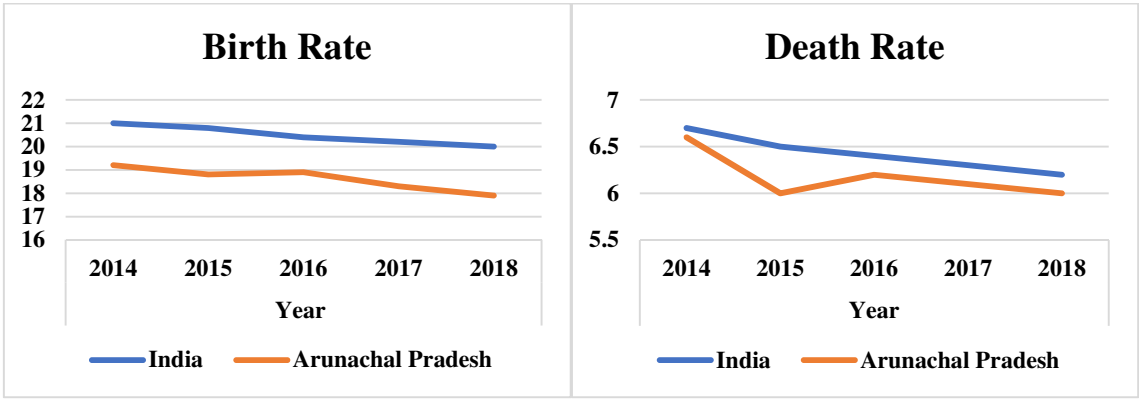


1.2 Overview of healthcare facilities in Arunachal Pradesh

Arunachal Pradesh had a population of 13.84 lakh as per census 2011. To cater to the healthcare services of its citizen at different level, the State Government has established 19 District Hospitals (DHs), 80 Community Health Centres (CHCs), 167 Primary Health Centres (PHCs) and 616 Sub-Centres (SCs).

As per Sample Registration System (SRS) statistics, 2014-18 of Registrar General of India, Arunachal Pradesh's score in two main health indicators viz. Birth Rate and Death Rate was better than the National figures. The graphic comparison between the State and National figures of Birth Rate and Death Rate during 2014-18 is indicated below:

Chart 1.2: Comparison of Birth rate and Death rate of Arunachal Pradesh with National average



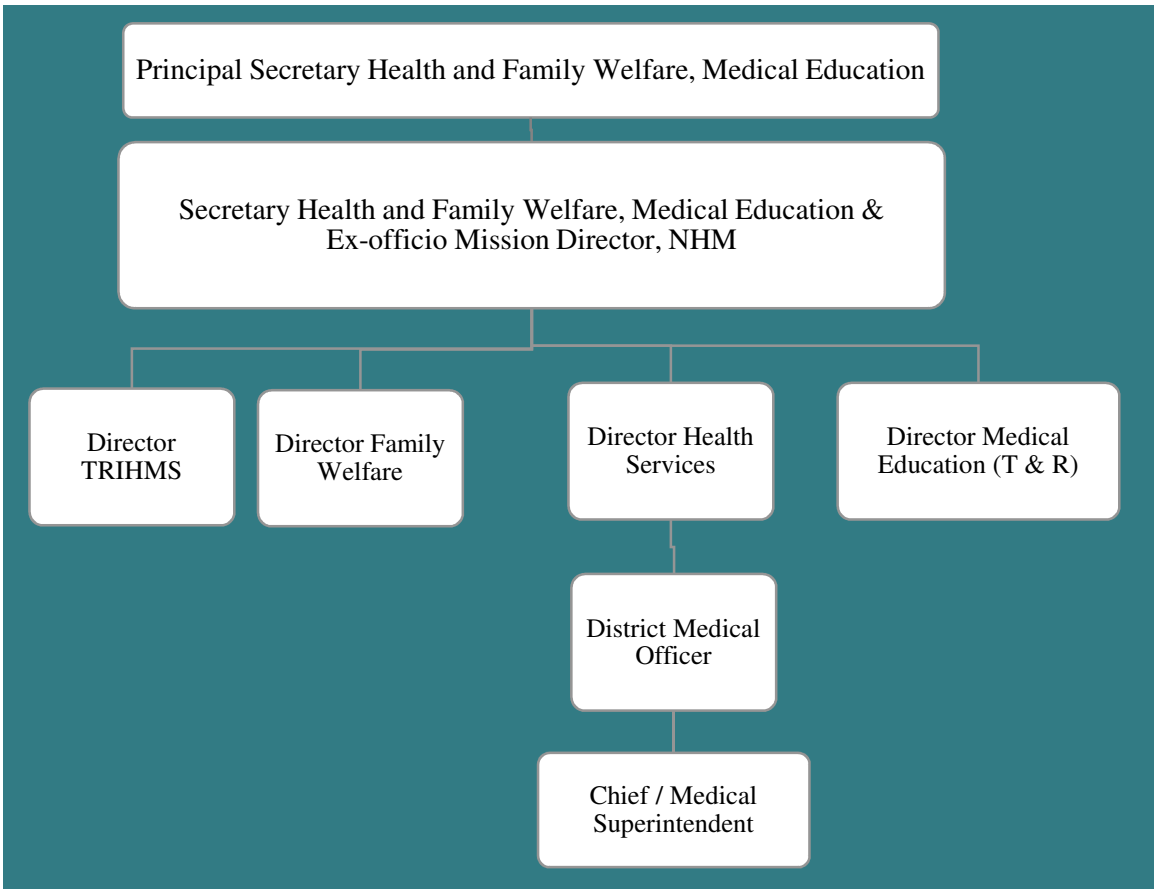
Source: SRS Bulletin of respective years (Registrar General, India)

It is observed that birth rate in the State *decreased* from the 19.2 in 2014 to 17.9 in 2018 and remained less than the national figures throughout the period. However, the rate of decline in birth rate from 2014 to 2018 in the State was higher (1.3 points) than the national rate. Death rate in the State, which remained lower than the national figures, registered a *downward trend*, decreasing from 6.6 in 2014 to 6 in 2018. The rate of decline in death rate was marginally better than the national rate. Disaggregated data between rural and urban population of the above indicators during this period shows that the birth, death and natural growth rate of the population in the State is more in rural as compared to urban areas. These trends, inter alia, require to be addressed in the policy and programme implementation in the health sector of the State.

1.3 Accountability Structure for Healthcare in the State

At the apex level, district hospitals come under the purview of the Health and Family Welfare Department, which is responsible for policy formulation and oversight. At the organisational level, the Directorate of Health Services is responsible for implementation of the policy initiatives and developmental programmes relating to healthcare. At the administrative level, the District Medical Officer (DMO) is responsible for coordinating all the activities relating to healthcare services in the district. At the operational level, district hospitals are headed by a Medical Superintendent, who is directly responsible for its functioning although, the financial and administrative autonomy at this level is quite limited. The organisational set up of Health and Family Welfare Department of Government of Arunachal Pradesh is given in the chart below:

Chart No. 1.3: Organisational structure of department



1.4 Audit Framework

1.4.1 Background

The focus of India's National Health Policy 2017 is to strengthen the trust of the common man in the public healthcare system by making it predictable, efficient, patient-centric, affordable and effective, with a comprehensive package of services and products that meet immediate healthcare needs of most people. It envisages attainment of its goal through a preventive and promotive health care orientation in all developmental policies and universal access to good quality health care services without anyone having to face financial hardship as a consequence. Healthcare services in the North Eastern Region (NER) are inadequate, in terms of the number of health facility available as well as the quality of facilities provided. The primary reason for the inadequacy of healthcare services are hilly and difficult terrain, inadequate budgetary outlay of health, absence of specialist doctors and other medicare personnel and sophisticated diagnostic equipment, limited presence of private sector etc.

As per the Government of India (GoI) (written statement of the Union Minister for State for Health and Family Welfare, in Parliament), as of June 2019, the entire NER accounted for about l0 *per cent* (88 out of 851) of the district hospitals available across the country.

In this context, delivery of health care in Arunachal Pradesh, a hilly state with difficult terrain spread over a geographical area of about 83,743 sq. Km and a population density

of 17 people per sq. km. which is lowest in the country, is a challenge. The State also has very limited private health care providers compared to the rest of the country. Since the majority of the population is mostly dependent on government hospitals, the efficient functioning of the public healthcare system is critical.

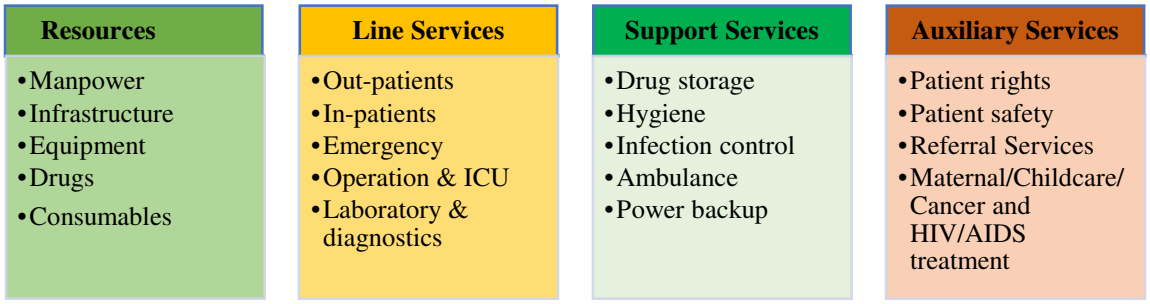
Arunachal Pradesh accounted for 19 out of these 88 (22 *per cent*) district hospitals in NER. Out of these 19, only 13 are functional as DHs, the remaining 6 are functioning as Community Health Centres (CHCs) due to absence of facilities and infrastructure commensurate with a DH. Provision of healthcare services by the Government of Arunachal Pradesh has been reviewed by the Comptroller and Auditor General of India (C&AG) at periodic intervals. Functioning of Primary Health Centres (PHCs) and Community Health Centres (CHCs) under NRHM was reviewed earlier by the C&AG of India in year 2016 in the Audit Report for the year ended 31 March 2016.

In this background, it was decided to conduct Performance Audit of healthcare services being provided at the district hospitals in the State to assess the availability in these hospitals of resources identified as essential by Indian Public Health Standards (IPHS) in the district hospitals overall and to evaluate the quality of healthcare services provided by these hospitals in some selected domains.

1.4.2 Audit Domains

The following audit domains/ themes were identified for the outcome audit of district hospitals:

Chart 1.4: Audit Domains



1.4.3 Audit Objectives

In pursuance of the audit domains/themes identified above, the objectives of carrying out a performance audit of select district hospitals are to assess whether:

i. adequate and essential resources - manpower, drugs, infrastructure, equipment and consumables are available for effective functioning of the district hospitals;

ii. timely and quality healthcare is delivered through line services like OPD, IPD, ICU, OT, trauma & emergency, etc. and diagnostic services;

iii. support services like drug storage, sterilisation, hygiene, waste management, infection control, ambulance, power back-up/UPS, etc. are aiding the line departments in providing a safe and sterile environment; and

iv. the adequacy and timeliness of healthcare services relating to maternal and infant care, cancer, and HIV/AIDS.

1.4.4 Audit criteria

Audit findings were benchmarked against the criteria sourced from the following:

- Indian Public Health Standards (IPHS) guidelines for district hospitals
- NHM guidelines 2005 and 2012
- National AIDS Control Organisation (NACO) Programmes
- Janani Sishu Suraksha Karyakram (JSSK) guidelines
- National Quality Assurance Standards (NQAS) for district hospitals
- Swacchta guidelines for public health facilities, GoI
- Assessor's Guide Book for Quality Assurance in District Hospitals 2013, GoI
- Operational guidelines for prevention, screening and control of common non-communicable diseases, GoI
- Indian Council of Medical Research (ICMR) on Hospital Infection Control Guidelines
- Bio-Medical Waste (Management and Handling) Rules, 1998 & 2016
- Operational framework for management of common cancers, GoI
- Maternal and new born Health Tool kit, 2013
- Government policies, orders, circulars, budgets, annual reports etc.

1.4.5 Scope and methodology of Audit

Audit scope involved scrutiny of records for the period 2014-15 to 2018-19 in the offices of Director Health & Family Welfare, Mission Director NHM, District Medical Officers (DMOs), five District Hospitals, One CHC and one PHC in five selected districts.

We test checked records of the Department and the Directorate of Health and Family Welfare to understand overall support, policy initiatives, prioritisation of activities and funding. Field audit was carried out between October 2019 to February 2020 and records of the selected district hospitals were scrutinised and health facilities and infrastructure were physically inspected on a sample basis along with the concerned hospitals authorities to assess the quality of healthcare services being provided.

The benchmarks were with reference to National Quality Assurance Standards (NQAS) for district hospitals. Data in the Hospital Management Information System (HMIS) of the State was analysed and compared with the HMIS data at the hospital level. Samples were drawn from the hospital level data and direct substantive checking was carried out to gain assurance about the integrity of data. Photographic evidence was taken, where necessary, to substantiate audit findings. Patient feedback was obtained through a

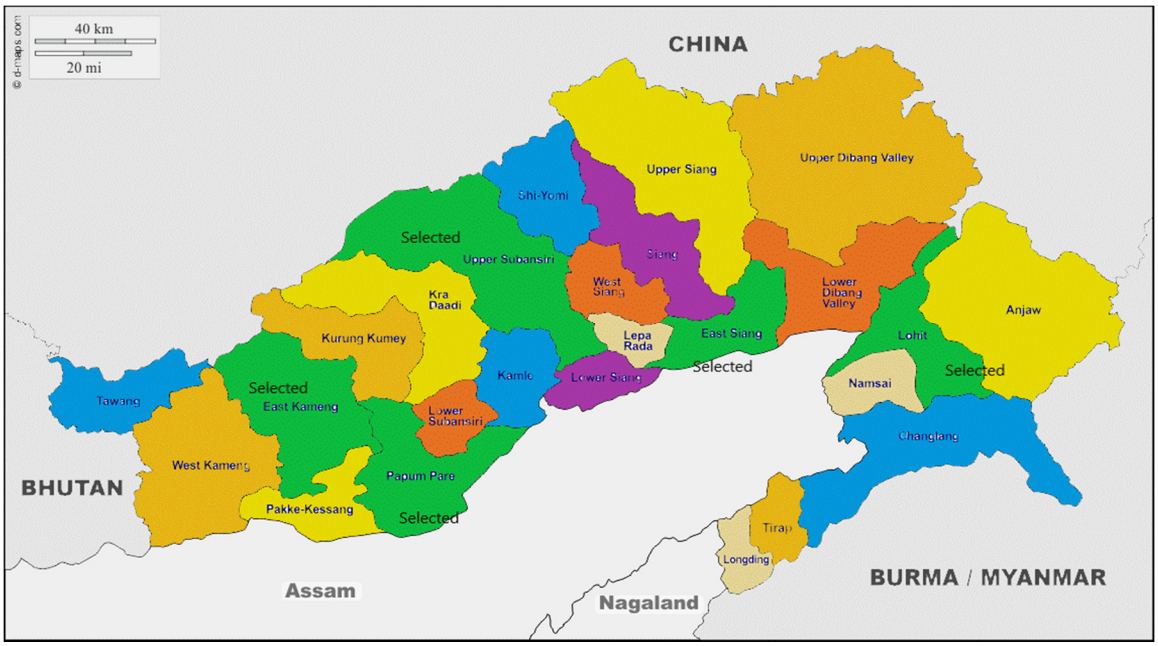
structured questionnaire to gauge the extent and quality of healthcare services being provided by the sampled district hospitals.

An entry conference was held on 30th August 2019 with the Secretary, Medical Health and Family Welfare Department and other officers wherein the audit objectives, scope, criteria, etc. were discussed and the inputs of the Department obtained.

The draft Report of the Performance Audit was sent to the State Government for its comments on 29 May 2020 and an ***'Exit Conference'*** was held on 5 June 2020 to discuss the findings. The department did not furnish replies to the draft report. However, initial responses given by the departmental officers and replies mentioned during the exit conference are considered and suitably incorporated, as appropriate, in finalising the report.

1.4.6 Audit Sample

Against 25 districts in Arunachal Pradesh, there are 19 District Hospitals (DHs) of which only 13 are functional as district hospitals (as discussed in para 3.3.1). Out of 13 functional District Hospitals, five hospitals (38 *per cent*) comprising of two DHs, two General Hospitals and one Medical College & Hospital (which is also DH of capital district) were selected using Probability Proportional to Size Without Replacement (PPSWOR) method, with size measure being the total number of patients in the DHs during the period 2014-15 to 2018-19. Selected Districts are highlighted in the map below:



Picture 1: Sampled districts

The selected hospitals are as follows:

(i) District Hospital Seppa (East Kameng District)

(ii) District Hospital Daporijo (Upper Subansiri District)

(iii) Bakin Pertin General Hospital (BPGH) Pasighat (East Siang District)

(iv) Tezu General Hospital (Lohit District) and

(v) Tomo Riba Institute of Health and Medical Science (TRIHMS) (Papumpare District).

TRIHMS was proposed as a 300 bedded hospital, but has 250 functional beds. It is proposed to be upgraded to a 500 bedded hospital by the State Government. In this PA, the benchmark in terms of availability of resources for a 300 bedded hospital, as stipulated in the IPHS standards, have been adopted.

Besides, one Community Health Centre (CHC) and one Primary Health Centre (PHC) viz. Doimukh CHC and Chiputa PHC located within the district hospital radius in the capital district (Papumpare) were covered in audit to have a holistic picture to examine the number and nature of cases that are being referred to the DH from the primary and secondary health care facilities relating, especially to maternal and child care issues.

1.5 Acknowledgement

The Office of the Principal Accountant General, Arunachal Pradesh acknowledges the cooperation extended by the Health and Family Welfare Department and the sampled district level hospitals and CHC/PHC in the conduct of this Performance Audit.

Chapter- 2: Financial Resources

2.1 Fund management

The Health & Family Welfare Department, Government of Arunachal Pradesh received funds from two main sources: (i) State budget and (ii) Grants-in-Aid from GoI, under National Health Mission (NHM) with corresponding share of the State Government.

2.1.1 Funds under State budget

National Health Policy (NHP) 2002 envisaged the State Governments to increase commitment to Health Sector up to eight *per cent* of their budget by 2010, while NHP 2017 envisaged raising Public Health Sector spending to more than eight *per cent* of the budget by 2020. The overall budget allotment and expenditure of the State Government and of the Health and Family Welfare Department during 2014-19 is as shown in the table below:

Table No. 2.1: Budget allocation and expenditure

(₹ in crore)

Figure	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Overall Budget Allocation	13,772.19	15,568.70	16,315.79	20,141.23	26,835.17	92,633.08
Overall Expenditure	9,699.22	11,656.16	11,536.32	14,526.37	18,457.16	65,875.23
Outlay on Health	658.17	734.75	901.35	1119.69	1776.74	5,190.70
Expenditure on Health	580.24	515.12	707.22	935.23	1118	3,855.81
Savings against Health Allocation	77.93	219.63	194.13	184.46	658.74	1334.89
Percentage Savings	11.84	29.89	21.54	16.47	37.08	25.72
Percentage of Outlay on Health to overall Budget Allocation	4.77	4.71	5.52	5.55	6.62	5.60
Percentage of Expenditure on Health to Total Expenditure	5.98	4.42	6.13	6.44	6.06	5.85
Expenditure of five sampled DHs	52.41	62.72	74.35	93.14	92.01	374.61
Percentage of Expenditure on Health as compared to GSDP of State	3.23	2.78	3.60	4.20	4.56	

(Source: Finance & Appropriation Accounts, State Finances Audit Report and Departmental records)

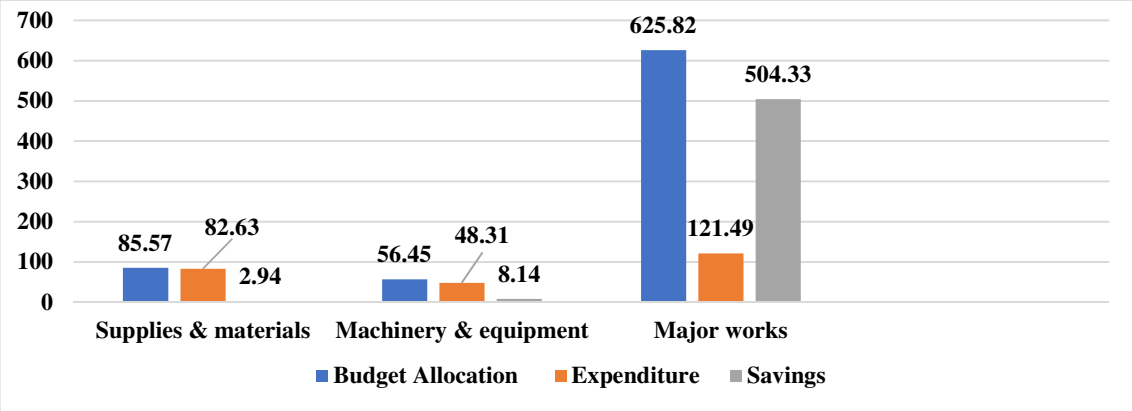
As can be seen from the above table, budgetary outlay on health services in the State during the five-year period 2014-19 ranged from 4.71 *per cent* of the State budget in 2015-16 to 6.62 *per cent* in 2018-19. In none of the years, the State Government allocated 8 *per cent* of its budget to the health sector. Expenditure on health services ranged from 4.42 *per cent* of the total expenditure of the State in 2015-16 to 6.44 *per cent* in 2017-18 and never touched 8 *per cent* in any year. The department did not utilise the allocated funds in five years period 2014-19 with savings ranged from ₹ 77.93 crore in 2014-15 to ₹ 658.74 crore in 2018-19.

2.1.2 Revenue and Capital Expenditure

Out of the total expenditure of ₹ 3855.81 crore incurred on health during 2014-19, revenue expenditure constituted ₹ 3681.97 crore (95.49 *per cent*) while capital expenditure was ₹ 173.44 crore (4.49 *per cent*). The allocation of funds under some significant object heads, representing the economic nature of expenditure of budget and expenditure under both Revenue & Capital heads during the audit period is given in Chart 2.1 below:

Chart 2.1 showing the details of Budget allocation, expenditure and savings under object head Supplies & materials', Machinery & equipment and Major works:

(₹ in crore)

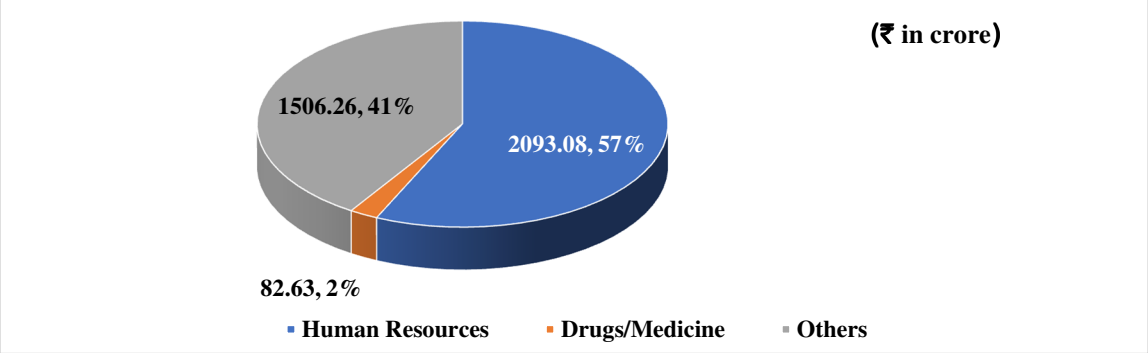


(Source: Budget, VLC data, Finance & Appropriation Accounts of respective years)

It is observed that under supplies and materials, the allocation itself was only 1.6 *per cent* of the total budget under the health sector and even this amount was not fully utilised during 2014-19. Similarly, allocation under machinery and equipment was only 1.08 *per cent* of the total health budget and there was a saving of 14.4 *per cent* under this object head of expenditure. Under major works, the department could not utilise 81 *per cent* of the allocated budget. This had an adverse impact on the procurement of drugs/ supplies, equipments and machineries besides affecting infrastructure works and facilities in the sector. The deficiencies are highlighted in later parts of the Performance Audit Report.

Revenue expenditure (component-wise) incurred by the Health & Family Welfare Department during 2014-19 is presented in the following chart:

Chart 2.2: Component wise revenue expenditure during 2014-19



(Source: Data from Voucher Level Compilation, AG, Arunachal Pradesh)

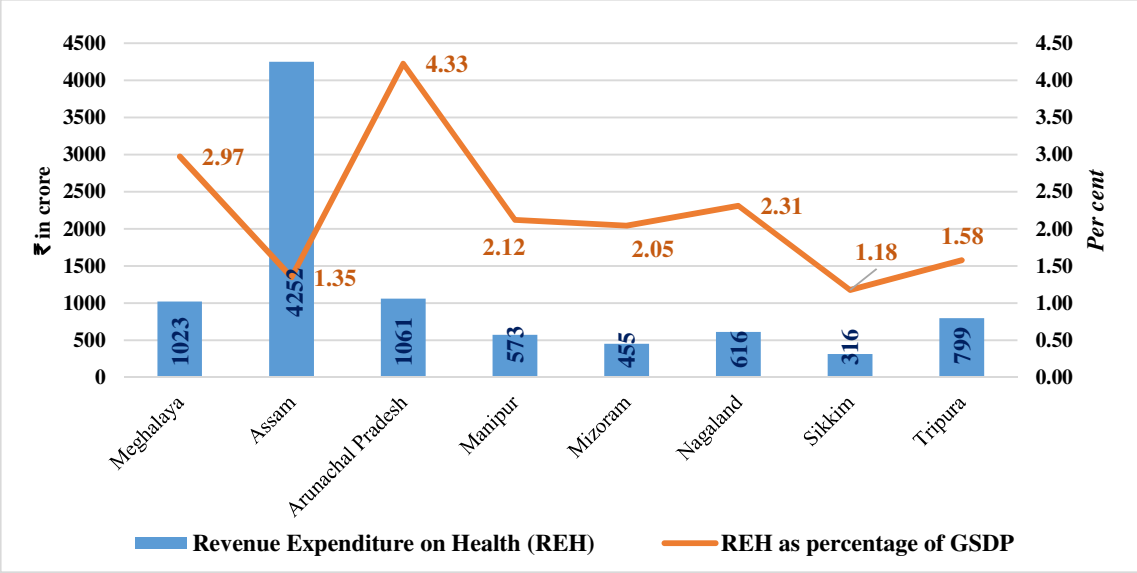
As can be seen from the chart above, 57 *per cent* of the revenue expenditure was incurred on human resources (salary); two *per cent* on procurement of drugs/ medicines and 41 *per cent* towards 'Others'. It is observed that expenditure under 'Others' which comprised mainly of Office Expenses, POL, Motor Vehicles etc. had increased by 132 *per cent* from ₹ 220.84 crore in 2014-15 to ₹ 512.82 crore in 2018-19, while expenditure on drugs and medicines has declined by 51 *per cent* from ₹ 34.72 crore to ₹ 16.90 crore during this period. There is a sharp decline from ₹ 34.72 crores in 2014-15 to ₹ 1.48 crore in 2015-16 on drugs and medicines and the expenditure on drugs never regained thereafter during the last five years. The declining expenditure on drugs and medicines is not justifiable and would impact the effective delivery of health care services provided by District hospitals, as discussed in the succeeding paragraphs.

The reply of the Department was not received (August 2020).

2.1.3 Revenue expenditure on Health compared to other North Eastern States

In terms of revenue expenditure on health during the financial year 2018-19, Arunachal Pradesh (₹ 1061 crore) was in the top amongst North Eastern States barring Assam (₹ 4252 crore). The per capita revenue expenditure on health by the Government, excluding the funds directly given by the GOI to the implementing agencies, was over ₹ 7500 per annum. Despite spending relatively higher amount on revenue expenditure, there were several deficiencies in the DHs which are discussed in the subsequent chapters/paragraphs.

Chart 2.3 : Comparison of Revenue Expenditure on Health vis-à-vis GSDP of North Eastern States for the year 2018-19



Source: *Appropriation accounts of Arunachal Pradesh 2018-19*

2.1.4 Funds under National Health Mission (NHM)

Funds under NHM were sanctioned to the State by the GoI in the form of Grants-in-Aid and were released to the Mission Director, NHM, Government of Arunachal Pradesh (GoAR) based on the Approved State Programme Implementation Plans (SPIP). The year-wise position

of receipt of funds and expenditure incurred there against by the Mission Director, NHM during the five-year period 2014-15 to 2018-19 is given in the table below:

Table 2.2: Details of funds made available under NHM and expenditure

(₹ in crore)

Year	Opening Balance	Funds received from				Expenditure	Unspent balance (% age)
		GoI	GoAR	Interest	Total		
2014-15	46.03	125.24	15.27	1.38	187.92	105.01	82.91 (44)
2015-16	82.91	202.49	11.09	0.98	297.47	172.14	125.33 (42)
2016-17	125.33	151.07	18.41	1.42	296.23	179.66	116.57 (39)
2017-18	116.57	208.51	19.52	0.93	345.53	166.84	178.70 (52)
2018-19	178.70	237.89	17.15	1.62	435.36	152.81	282.55 (65)
		925.21	**81.44**	**6.33**	**1562.51**	**776.46**	

Source: Information furnished by the Mission Director, NHM, Naharlagun

As can be seen from the table above, out of the total funds of ₹ 1562.51 crore available during 2014-19, the Mission Director NHM utilised only ₹ 776.46 (50 *per cent*). In none of the years, the Mission Director could fully utilise the available funds and the unspent funds during 2014-19 ranged between 39 to 65 *per cent*.

Due to persistent savings of funds under the State budget and also funds under NHM, the secondary healthcare facilities in the State suffered from inadequacy of physical infrastructure, shortage of drugs, equipments, specialist services, emergency and other diagnostic services, as brought out in the audit observations later in the Performance Audit Report.

2.1.5 Non-Provision of separate budget for DH and non-delegation of financial powers to DH

There was no separate budget allocation for the District Hospitals (secondary health care for rural and urban population) in the State. In the absence of separate allocation for the District Hospitals, the funds allocated and spent for the secondary health care in the state is not ascertainable. IPH Standards mention that Medical Superintendent be authorized to incur expenditure from ₹ 20 lakhs to ₹ 25.00 lakhs depending upon bed strength for repair/upgrading of impaired equipment/ instruments with the approval of executive committee of Rogi Kalyan Samiti/Hospital Management Society.

Audit noticed that Medical Superintendents of District Hospitals (except TRIHMS) in the state were neither having power of Drawing and Disbursing Officer (DDO), nor they had been delegated any financial power to deal with emergency situations/ stock-outs. They were not provided any funds except meagre funds under NHM for the implementation of Janani Shishu Suraksha Karyakram (JSSK), Janani Suraksha Yojana (JSY), Rogi Kalyan Samiti (RKS) and were largely dependent on District Medical Officer (DMO) for supply of medicine, equipment, manpower, maintenance of facility etc.

Thus, in the absence of delegation of financial power to the MS, they were not able to address gaps in resources (if any) as prescribed for the district hospitals.

Conclusion

The total budget allotment and expenditure of the Health and Family Welfare Department of the State against the overall State Budget and expenditure during 2014-19 was 5.60 *per cent* and 5.85 *per cent* respectively, even as the National Health Policy, 2017 envisaged allocation of at least eight *per cent* of the total budget of the State for Health Sector. The State Government made highest provision of 6.62 *per cent* of its Budget during the year 2018-19 on health outlay. The State spent very little on strengthening/ providing health infrastructure, capital expenditure being merely four *per cent* of the total health expenditure incurred during 2014-19. The Department did not utilise the allocated funds optimally during the five-year period 2014-19, with savings ranging from ₹ 77.93 crore (12 *per cent*) in 2014-15 to ₹ 658.74 crore (37 *per cent*) in 2018-19. The outlay on supplies and materials, machinery and equipment was poor while the department could not utilise 81 *per cent* of the budget on Major Works. The allocation on drugs and medicines under revenue expenditure *declined* during the period while expenditure under Office Expenses, POL, Motor Vehicles etc. registered an *upward trend*. This had an adverse effect on the quality of health services provided in the DHs in the State.

Similarly, NHM funds utilisation was merely 50 *per cent* during 2014-19 indicating poor / non-implementation of various important National Health Programmes.

Recommendations

i. *The State Government may enhance the budget provision and expenditure on healthcare services to ensure that adequate and quality healthcare services are provided to the people of the State; and*

ii. *The State Mission Director, NHM may enquire the reasons for suboptimal or no spending on specific health programmes being administered in the State and ensure optimum utilisation of funds received under various National Health Programmes through effective implementation and monitoring.*

Chapter-3: Essential Resources Management

Adequacy of essential resources - manpower, drugs & consumables, equipment and infrastructure for the effective functioning of 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 gap analysis to ascertain the requirement of resources and service provisioning in the hospitals was not done by the Department. The planning exercise was limited to allocating the budgeted funds to the DMOs on an ad-hoc basis. The DMOs were in turn to utilise the resources both on secondary as well as primary health care, due to which the focused attention required for standardisation of services and resources at the secondary health care level was not given in the State.

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 Services 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 created 2606 posts of doctors, nurses and other paramedical staff during 2015-17, the basis of which was not known. Out of 2606 posts, till November 2019, they filled up 2310 posts, leaving a balance 296 posts which included 208 doctors as shown in below table 3.1 below:

Table 3.1 No. of posts created and filled up

Name of post	No. of posts created	No. of posts filled up	No. of posts not filled up
Doctors	525	317	208
Nurses	331	316	15
Paramedical Staff	1,750	1,677	73
Total	**2,606**	**2,310**	**296**

Source: Departmental records

The 40 *per cent* vacancy in the post of doctors would affect the quality of health care services. The reply of the Department on the absence of data for sanctioned strength was not received (August 2020).

3.2.1 Shortage of doctors and nurses in test checked DHs

Audit scrutiny revealed shortage of doctors (including specialists) and nurses in all the test-checked DH vis-a-vis IPHS norms. The details of men-in-position vis-à-vis IPHS norms in the test checked hospitals as on 31 December 2019 is shown in Table-3.2 below:

Table 3.2: Shortage of manpower in test checked DHs

Name of Hospital	Doctors			Nurse		
	IPHS norm	Person in position	Vacancy in percentage (%)	IPHS norm	Person in position	Vacancy in percentage (%)
Seppa	29	12	59	45	29	36
Tezu	29	19	34	45	41	9
Daporijo	29	20	31	45	45	-
Pasighat	29	58	(-) 100	45	38	16
TRIHMS	50	151	(-) 202	135	115	15

Source: Departmental records

It can be seen from the table that while there was excess deployment of doctors in two hospitals, three DHs were facing shortage of doctors. Thus, asymmetric distribution of doctors in the test-checked hospitals was noticed with 200 *per cent* excess doctors in TRIHMS, whereas there was a 59 *per cent* shortfall of doctors in Seppa vis-à-vis the IPHS norms. Similarly, the deployment of nurses across the hospitals vis-à-vis IPHS norms suffered maximum shortage of 36 *per cent* in Seppa to minimum 9 *per cent* in Tezu.The doctors and other medical staff were more than the numbers stipulated in the norms in places where the infrastructure facilities are relatively better.

The shortage of Doctors especially Specialist Doctors and Nurses is an area of concern as the patients are deprived of quality treatment.

Admitting shortage of manpower especially in the cadre of specialist doctors, the Secretary Health and Family Welfare during Exit Conference stated that to address the problem of shortage of doctors, the IPHS norms meant for Sub-District Hospital will be adopted for DHs and necessary instruction will be issued in this regard. The Secretary also stated that the IPHS prescribed norms are based on national perspective but considering the sparse population in the State, there was a need to dilute the norms in the State.

On the issue of excess deployment of doctors in TRIHMS, he stated that Medical Council of India (MCI) norms, instead of IPH Standard, should be considered for benchmarking. The Government may give a formal reply on the staffing norms for a Medical College hospital and justify the staffing in TRIHMS.

3.2.2 Shortage of para-medical staff in DHs

The paramedical staff was responsible for implementation and management of the prescribed treatment plans and to deal with the patients in emergent medical situations.

Audit observed that there was shortage/excess of para-medical staff in the test-checked DHs, indicating a similar asymmetric distribution of the available manpower, as seen in Table 3.3 below. The availability of more number of para medical staff than those prescribed in the norm at places where there was better infrastructure facilities is also observed.

Table 3.3: Availability of Para medical staff in test checked DHs

Name of Hospital	Paramedical staff		Shortage/Excess
	IPHS norm	Person in position	
Seppa	31	10	21
Tezu	31	19	12
Daporijo	31	19	12
Pasighat	31	65	-34
TRIHMS	66	57	9
	190	170	16

Source: Departmental records

It is observed that maximum shortage and excess of para-medical staff vis-à-vis the sanctioned strength ranged between 68 *per cent* in Seppa and 110 *per cent* in Pasighat respectively, underscoring the inequitable deployment of para-medical staff, who share with physicians, the direct responsibility for patient care.

Conclusion

The department did not have any centralised database of the sanctioned strength and deployment of doctors, nurses and other paramedical staff in the health care facilities in the State. In 2015-17, the Government sanctioned 525 posts of doctors and 2081 of para medical staff, of which 2310 were filled up leaving a shortage of 208 doctors. In test checked DHs, Seppa faced maximum shortage (59 *per cent*) of doctors followed by Tezu (34 *per cent*) and Daporijo (31 *per cent*) whereas there was excess deployment at other two DHs. As regard nurses, the test checked hospitals had an overall shortfall of 47 nurses (15 *per cent*) with Seppa having maximum shortfall of 36 *per cent* followed by Pasighat (16 *per cent*), TRIHMS (15 *per cent*) and Tezu (9 *per cent*). Similar situation was in the case of para medical staff wherein Seppa faced shortage of 68 *per cent* followed by Tezu and Daporijo (39 *per cent* each).

Recommendations

i. *The State Government may take steps to create a centralised database of sanctioned strength and deployment of manpower in the State and rationalise the deployment of available medical/para medical staff in view of the inequitable deployment across DHs.*

ii. *The State Government may review their manpower requirement to ensure delivery of adequate and quality healthcare services.*

3.3 Physical infrastructure

3.3.1 Non availability of District Hospitals in 12 districts

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 the people and referring centres. IPH Standards also envisaged a DH in every district to cater to the needs of people living in district headquarters, town and the rural populace in the district.

Audit observed that as of March 2020, there are 25 districts in the State against which there are only 19 DHs. Further, out of 19 DHs, 6 DHs[1] were not functioning as DHs but as Community Health Centres (CHC), since these hospitals though notified as DH in 2013, were not augmented with infrastructure and manpower facilities as prescribed for DHs. It is observed that despite availability of funds under Major Works, the required resources could not be made available by the Department for augmentation of facilities in the remaining districts. The people of these districts were thus, deprived of adequate healthcare facilities forcing them to either opt for health facilities outside the District/State involving costs and risks or to obtain treatment in already strained facilities in other districts.

The reply of the Department was not received (August 2020).

3.3.2 Availability of CHCs, PHCs and SCs

To ensure universal availability and accessibility of healthcare, the Government of Arunachal Pradesh, Health and Family Welfare Department has adopted NRHM norms / criteria for setting up healthcare facilities as detailed below in the table 3.4:

Table 3.4-Norms for creation of health facilities

Health facility	As per State's Norms
Sub-centre (SC)	One SC for every 3000 people
Primary Health Centre (PHC)	One PHC for every 20000 people
Community Health Centre (CHC)	One CHC for every 80000 people

The population of the State as per 2011 Census was 13, 83,727 and based on the norm, the State was required to have 461 SCs, 69 PHCs and 17 CHCs. Considering rural villages being sparsely populated in the State and to reduce the distances of health centres from one habitation to another for the rural public, the State Government had approved 616 SCs, 167 PHCs and 80 CHCs as of March 2019. The position of health centres as on October 2019 in the State vis-à-vis the norms was as under:

[1] District Hospital Doimukh, District Hospital Koloriang, District Hospital Anjaw, District Hospital Likabali, District Hospital Namsai and District Hospital, Longding

Table 3.5- Position of health centres in the State

Healthcare facility	Requirement as per population	Actually approved	Functional	Shortfall/Excess of functional SC/PHC/CHC	Shortfall of functional
				wrt population norms	wrt to approved
	a	**b**	**c**	**(col. a-col. c)**	**(col. c-col. b)**
SC	461	616	391	(-) 70	(-) 225
PHC	69	167	124	(+) 55	(-) 43
CHC	17	80	62	(+) 45	(-) 18

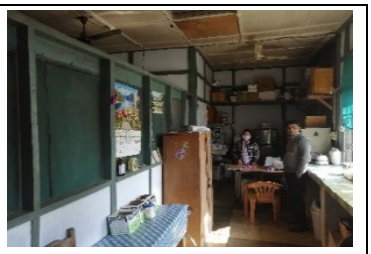
It can be seen that availability of functional health centres as per population norm was in excess of the requirement in CHCs and PHCs but there was shortage of 15 *per cent* in SCs as on March 2019. However, there was an overall shortfall of CHC, PHCs and SCs by 23 *per cent*, 26 *per cent* and 37 *per cent* respectively vis-à-vis those actually approved by the State Government. Test check of the primary health care centres indicated that they were not equipped with the required infrastructure equipment, medical and para-medical staff.

Further, the shortage of DHs and SCs was one of the factors responsible for shortfall in achievement of targets such as antenatal care, institutional deliveries, *etc.* as discussed later**.**

3.3.3 Inadequacies in physical infrastructure

Development of infrastructure facilities in public health institutions is essential for providing quality medical services. It was observed that despite availability of funds, there was shortage in physical infrastructure facilities, though the hospital administration of the test checked districts claimed that essential items of infrastructure facilities were mostly provided in the DHs, as per the standardisation norms. To verify the claims of the hospital administration, physical inspection was carried out in the test checked hospitals and the same revealed certain deficiencies which are mentioned below:

IPHS Norms	Audit Observations
Barrier-free access to the health facility is an important element in ensuring uninterrupted access by both patients and hospital staff as per the standards. IPHS norms prescribe that DHs should have barrier free access environment for easy access.	Out of the five hospitals test-checked, ramps were available at the OPD of four hospitals except Tezu (new OPD building).
	In TRIHMS, lifts were found non-functional since last two years due to power issue (insufficient voltage). This compelled patients including elderly and pregnant women, to face problems in availing health services in OPD, IPD wards, laboratories, labour ward, Operation theatre, dialysis etc. as these are situated on the first and other higher floors.
IPHS norms prescribe that too old buildings should be demolished and new building should be constructed in its place for locating the District Hospital.	DH, Tezu is functioning from a very old Semi Permanent Type (SPT) type building constructed in year 1962 and lacked adequate space. As a result, many departments like immunisation section, diagnostic laboratory, etc. are working from congested rooms, having no sitting space for patients and amenities. There was also risk of radiation hazard due to the SPT building (as detailed at para 4.10.1.2).
	In DH, Tezu, there is no power back-up, in case of disruption of water supply at DH and also DG sets were not installed to ensure uninterrupted power supply to the hospital.

In DH Daporijo, unhygienic wards due to seepage of water and formation of fungus.


3.3.4 Non availability of Blood Bank

As per IPHS, blood bank is one of the essential services that a District Hospital is to provide. Blood bank should be in close proximity to pathology department and at an accessible distance to operation theatre, intensive care units and emergency & accident departments.

Audit noticed that out of the five test-checked DHs, the facility of Blood Bank (BB) was not available in DH Seppa, despite construction of building and purchasing essential equipment in March 2018.

Newly constructed BB was used as store.

Due to non-availability of BB, the major and minor surgeries including C-section delivery could not be performed at DH and patients had to move to other health care facilities outside the district. The newly constructed BB building was utilized as store by the hospital authority and BB equipments were lying idle in hospital, as depicted in the photograph. Non-operation of blood bank at Seppa

DH not only resulted in idle expenditure of ₹ 60.00 lakh, but also puts the patients in need of blood, to avoidable hardship and risk, by being referred to Itanagar, which is about six-hour journey from Seppa.

The Medical Superintendent (MS) stated that blood storage facility will be available soon in DH.

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 society. There was a shortage of 12 DHs in the State and six DHs continued to function as CHCs due to absence of appropriate facilities, despite availability of funds. Besides,

there was an overall shortfall in the number of CHCs, PHCs and SCs as compared to what was envisaged by the State Government. There were also deficiencies in physical infrastructure. Further, blood bank was not functional in one out of the five test-checked DHs, in violation of IPH norms, despite availability of building and equipment thereby risking the life of patients in emergency situations.

Recommendation

The State Government may ensure setting up of district hospitals in the remaining districts or strengthen the existing healthcare facilities by equipping them with necessary infrastructure so that secondary healthcare services may be available to the citizens in their district itself and necessary steps may be taken to make the blood bank functional at Seppa DH.

3.4 Shortage of equipment

In order to provide quality health services, DH should be well equipped with all necessary lifesaving equipment, diagnostics and therapeutic equipment and furniture and other hospital accessories. Further, as per IPHS norms, Annual Maintenance Contract (AMC) should be ensured for all equipment so that preventive maintenance is taken, break-down avoided and down time of essential equipment reduced. Norms for requirement of equipment by various departments is provided in IPHS. As referred in Chapter 2 earlier, low allocation on machinery/ equipment and non-utilisation of available funds under machinery and equipment is reflected in the poor availability of equipments in the test check DHs.

Audit scrutiny of records and physical verification revealed shortage of equipment in different departments in the test-checked hospitals as detailed in the below table 3.6:

Table 3.6: Availability of equipment in test checked DHs

Name of the department	Requirement in number		Availability of no. of equipments at the time of inspection (%)				
	TRIHMS	DHs	Tezu	Seppa	Daporijo	Pasighat	TRIHMS
Imaging Equipment	8	5	3 (60)	1 (20)	1 (20)	4 (80)	8 (100)
X-ray Room Accessories	35	25	16 (64)	6 (24)	8 (32)	19 (76)	20 (57)
Cardiopulmonary Equipment	128	69	2 (3)	1 (1)	56 (81)	209 (303)	128 (100)
Labour Ward, Neo-natal Equipment	90	58	19 (33)	33 (57)	24 (24)	39 (67)	72 (80)
Equipment for Special New born Care Unit (SNCU)	91	102	36 (35)	32 (31)	56 (55)	65 (64)	27 (30)
Immunisation Equipment	30	29	16 (55)	29 (100)	11 (38)	19 (66)	23 (77)
Ear, Nose, Throat Equipment	26	20	0 (0)	2 (10)	0 (0)	20 (100)	20 (77)
Eye Equipment	26	27	22 (81)	5 (19)	6 (22)	22 (81)	30 (115)
Operation Theatre Equipment	68	41	12 (29)	7 (17)	12 (29)	24 (59)	44 (65)
Laboratory Equipment	123	123	53 (43)	44 (36)	23 (19)	95 (77)	70 (57)
Surgical Equipment Set	136	108	21 (19)	10 (9)	28 (26)	69 (64)	108 (79)

Name of the department	Requirement in number		Availability of no. of equipments at the time of inspection (%)				
	TRIHMS	DHs	Tezu	Seppa	Daporijo	Pasighat	TRIHMS
PMR Equipment	58	38	4 (11)	0 (0)	11 (29)	14 (37)	40 (69)
Endoscopy Equipment	7	5	0 (0)	0 (0)	0 (0)	5 (100)	2 (29)
Anaesthesia Equipment	106	108	20 (19)	4 (4)	20 (19)	68 (63)	117 (110)
Post Mortem Equipment	68	43	3 (7)	35 (81)	12 (28)	0 (0)	68 (100)
Total	**1000**	**801**	**227 (28)**	**209 (26)**	**268 (33)**	**672 (84)**	**777 (78)**

Source: Departmental records

It is observed that three out of five test-checked hospitals were working with less than 40 *per cent* of equipment with overall availability of equipment ranging from 26 *per cent* to 84 *per cent*. Due to shortage of equipment, several departments like Cardio-pulmonary (Tezu and Seppa), ENT, OT, Anaesthesia, Endoscopy and Physical Medicine (Tezu, Seppa and Daporijo) remained almost defunct and therefore tests, investigations and procedures could not be performed, compelling patients to visit hospitals outside the District/State at additional costs and efforts. Further, in DH Seppa even Annual Maintenance Contract for available equipment was not in place due to which the equipment remained non-functional for a long time. It is seen Digital X-ray machine was not working at Seppa since August 2019 for want of some parts and started working only from 28th November 2019.

The reply of the Department was not received (August 2020).

Conclusion

Medical equipment/ devices facilitate healthcare personnel to monitor patient health more accurately and help doctors perform various functions from the emergency room to the operating table. The bottom line is that to be able to administer quality health care services, medical equipment must always be available and functioning effectively.

Audit noticed that there was shortage of full range of essential equipment in the test-checked DHs in comparison to the IPHS norms, though funds were not fully utilised for the purpose. The average percentage in terms of availability of 15 sampled categories of equipment required by the five test checked DHs ranged from 26 *per cent* (Seppa DH) to 84 *per cent* (Pasighat DH) only. Patients in test checked DHs were deprived of health services of several departments like Cardiopulmonary, ENT OT Endoscopy, etc. due to shortage of equipment in DHs.

Recommendations

i. *State Government may ensure availability of full range of essential equipment in every district hospital, particularly in view of the increasing reliance on diagnostics for treatment of patients and also ensure adequate budget for the purpose.*

ii. *Proper maintenance of equipment through Annual Maintenance Contracts may also be ensured to reduce the breakdown time of critical equipment for diagnosis.*

3.5 Drugs management

3.5.1 Inefficient procurement process

As per the guidelines issued by Government of Arunachal Pradesh in December 2014 for central procurement of drugs and equipment, procurement was to be made in the ratio of 80:20 of the total grants or allocation as central and district procurement respectively. At the State level, a single department procurement board chaired by the Director of Health Services was to make procurement of all drugs. Local purchases may be made by District Board only for contingent medicines and other consumables, not covered by the Central Procurement Board. Annual indent for procurement of generic medicines and medical equipment was to be placed by the concerned office to the central board which will make procurement through inviting tenders. Guidelines also provide mandatory stamping of medicines and equipment with the inscription "Government Supply Not for Sale" and bar code to prevent short receipt of the medicines, medicines with short shelf life and also to prevent government medicines being sold out to private pharmacies, etc.

It is observed that there was poor allocation under supplies and materials in the health department budget and the expenditure on drugs and medicines declined by 51 *per cent* during the audit period. Audit also observed that the DHS delayed the procurement process routinely. Procurement process for the year 2014-15 got inordinately delayed and medicines which were to be delivered within 45 days from the date of supply orders could be supplied to the health facilities as late as March 2017. Similarly, procurement process for the year 2016-17 got delayed and medicines could be supplied only in March 2018. Procurement of drugs for the year 2017-18 and 2018-19 from NHM funds was also not completed as of November 2019. Audit further observed that the DHS neither asked DMOs to submit annual indent for procurement of drugs and equipment nor did DMOs submit suo moto, indicating procurement without assessment of actual demand. The medicines procured also had less than two-year shelf life and did not have the inscription "Government Supply Not for Sale".

Further, in November 2018, the State Government brought out a policy for the procurement of medicine, machinery and equipment, hospital consumables and diagnostic services. The policy provided preparation of an essential drug list for all levels of health facilities for a period of two years. Under the policy, a central procurement board will obtain uniform rate for procurement of various items and there will be decentralised purchase by DMOs. The policy also emphasised on the implementation of Drug and Vaccine Distribution Management System (DVDMS) for effective strengthening and streamlining of the procurement system. Audit however observed that the procurement process continued to be delayed due to non-finalisation of rates resulting in funds earmarked for 2017-18 not being utilised during the year. Tenders for the procurement were concluded and supply orders were issued as late as in March 2019. Audit also observed that the automation process of existing supply chain management system through implementation of DVDMS remained incomplete as the Supply and Transport (S & T) wing which was tasked with procurement of medicine could not access the portal and was maintaining stock register manually.

Thus, procurement process of medicine in the department was largely inefficient due to delays in the procurement and supply of medicines. As a result, District Hospitals had to face stock out position of lifesaving medicines almost throughout the period from 2014-15 to 2018-19 and patients were compelled to purchase medicines from open market, increasing their cost on healthcare services.

The reply of the Department was not received (August 2020).

3.5.2 Shortage of Essential Drugs

As the department did not have any Essential Drug List (EDL) for the major part of the period covered in audit (up to November 2018), IPHS prescribed list of essential drugs was used as a yardstick for the delivery of minimum assured service in District Hospitals. Audit checked availability of drugs in the sampled hospitals and noticed that most of medicines were not available at the time of inspection as detailed in **Appendix I**. The shortage of drugs ranged from 81 to 88 *per cent*. Further, analysis of records in the test checked hospitals revealed stock out period during audit period (2014-19) as given in Table 3.7 below:

Table-3.7: Availability of medicines in sampled hospitals

Name of Hospital	Stock-out period during 2014-19	Medicines not in the stock during 2014-15 to 2018-19	
		No. of medicines (out of total 458)	*in per cent* (%)
Seppa	1 day to 5 years	319	69.65
Tezu	1 month to 5 years	291	63.54
Daporijo	No records	No records	-
Pasighat	1month to 5 years	303	66.16
TRIHMS	13 months to 5 years	348	75.98

It can be seen from Table-3.7 that 63.54 to 75.98 *per cent* of the essential drugs were not available throughout the period. In DH Daporijo, even the records pertaining to stock were not maintained due to which the stock-out position of drugs could not be worked out. Audit observed that the shortage of medicine was due to delayed procurement and non-supply of medicines to the test checked hospitals.

The non/short availability of essential medicines was confirmed when in response to Patient's Satisfaction Survey conducted by audit on 98 patients in the test checked DHs, 57 *per cent* stated that prescribed medicines were '**almost never'** available in the hospital pharmacy; 33 *per cent* stated that medicines were available a **'few times'**; while 7 *per cent* and 2 *per cent* stated to have received the prescribed medicine '**Most times'** and '**Always'** respectively.

Thus, health department failed to provide essential drugs to the patient and thereby couldn't help in reducing the out of the pocket expenditure on healthcare for citizen of the State. No reasons were forthcoming for non-operationalisation of the DVDMs by Mission Director, NHM.

Accepting the audit finding, the Secretary Health and Family Welfare during Exit Conference stated that Drug and Vaccine Distribution Management System (DVDMS) will be implemented within two months to address shortage of medicine.

3.6 Quality Control of drugs

Quality control plays a major role in providing high quality drugs to the patients. To ensure supply of quality drugs under Drugs and Cosmetics Act, 1940, testing is mandatory. It was however, noticed that there was no system of pre-purchase testing of medicines/ drugs in the Directorate or test-checked DHs. Post-purchase testing of medicines was being done in an ad-hoc manner at the Regional Drug Testing Laboratory (RTDL), Guwahati and the Central Drug Testing Laboratory (CDTL) Kolkata, on the basis of samples drawn by the Assistant Drug Controller on a random basis, immediately on receipt of consignments of medicines in the Central Medical Store, Naharlagun. The number of samples drawn for testing and percentage of samples found substandard are shown in Table 3.8 below:

Table-3.8: Quality assurance of drugs

Year	No. of Samples Drawn	No. of Reports Received	No. of Reports Pending	No. of Samples found Sub-Standard	
				No.	Percentage
2014-15	14	13	1	2	14
2015-16	90	90	0	16	18
2016-17	1	1	0	1	100
2017-18	39	38	1	1	3
2018-19	70	44	26	8	11
Total	**214**	**186**	**29**	**28**	

From Table-3.8 above, it can be seen that number of samples drawn is quite less in 2014-15 and 2016-17 and that the average percentage of sub-standard samples was 13. During the year 2016-17, only one sample was drawn and it was found as substandard. Further, audit noticed that the time taken for receipt of Laboratory Reports ranged between 2 and 8 months after medicines were issued, defeating the very purpose of testing the medicines for quality assurance.

Since the Department did not have any drug testing laboratory in the State and sends drug samples outside the state for testing, to comply with the provisions of Drugs and Cosmetics Act 1940 appropriate provisions should be provided in procurement policy/ tenders for submission of quality test report issued by National Accreditation Board for Testing and Calibration Laboratories (NABL) along with the supplies to ensure supply of quality drugs. Obtaining quality assurance certificate (like NABL) for medicine supplied by the firms would certainly help to avoid incidence of use of sub-standard medicine besides complying with the provisions of law. Audit, however noticed that the department did not obtain any drugs analysis report cum quality assurance certificate along with the medicines supplied by the firms.

Conclusion

There was not only poor allocation of funds on drugs and medicines but the utilisation of funds also declined drastically during the period. Procurement process of drugs and medicine was inefficient as it failed to ensure timely supply of medicines to the DHs. There were stock out situations in the DHs due to delayed supply of medicine during 2014-19. The shortage of drugs ranged from 81 *per cent* to 88 *per cent*. The non-availability of essential drugs in the test-checked DHs, compelled the patients to purchase the prescribed medicines from the open market, out of their pocket. There were huge delays in testing of drugs supplied since the issue date, defeating the very purpose of testing of drugs for quality assurance. The State Government had not insisted upon submission of quality test report issued by National Accreditation Board for Testing and Calibration Laboratories (NABL) along with the supplies to ensure supply of quality drugs.

Recommendations

i. *The State Government should put a sound and robust procurement system for timely supply of quality medicines as per the need of hospitals and ensure all time availability of essential drugs in each hospital in order to avoid 'stock out'. It may also increase the allocation and utilise the funds optimally for procurement of drugs and medicines.*

ii. *The State Government may make it mandatory for suppliers to furnish quality report for medicine supplied from NABL, so as to ensure quality drugs to patients.*

Chapter – 4: Delivery of Healthcare Services

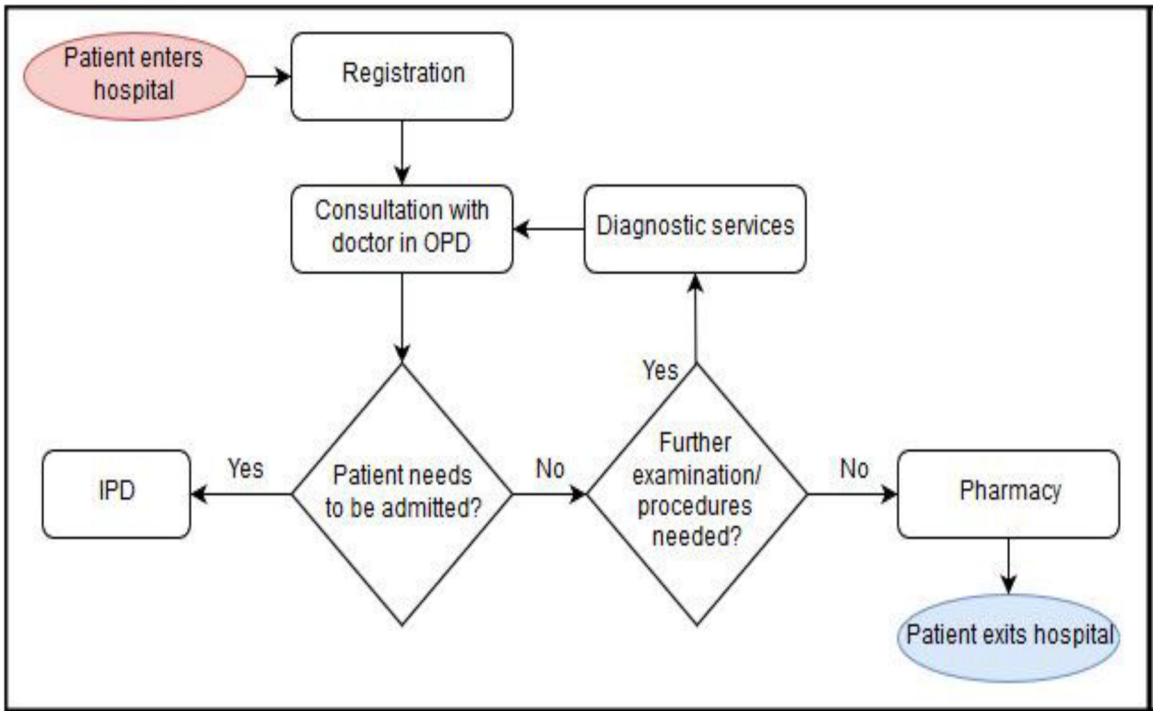
Delivery of OPD, IPD, ICU, OT, Trauma & Emergency and Diagnostic services.

High-quality healthcare services involve the right care, at the right time, responding to the users' needs and preferences, while minimizing harm and wastage of resources. Quality healthcare increases the likelihood of desired health outcomes. Audit observations on delivery of timely and quality healthcare services in the test-checked DHs through line services like Out-Patient Department (OPD), In- Patient Department (IPD), Intensive Care Unit (ICU), Operation Theatre (OT), Trauma & Emergency and Diagnostic services are discussed in the succeeding paragraphs.

4.1 Out Patient Department (OPD) Services

To avail of services in a hospital, patients first register at the registration counter of the hospital. They are then examined by the OPD doctors and further diagnostic tests are prescribed, where necessary, for evidence based diagnosis and/ or drugs are prescribed or admission in IPD is advised based on the diagnosis. The detailed process flow is shown in the chart below:

Chart 4.1: Flow of patient services



Audit findings pertaining to OPD services like registration, consultation, waiting time and other basic OPD facilities/ services in the test-checked DHs are discussed below:

4.1.1 Registration service in test-checked DHs

Registration counter is the first point of contact with the hospital for a patient and is an important component of hospital experience for patients and their attendants. IPHS norms envisage computerised registration. It is desirable that the registration process is computerised and able to collect patient information such as age, sex, address, ailment and

previous patient information in case of old cases in a quick manner so that unnecessary delay is avoided.

Audit observed that two out of five sampled DHs[2] did not have computerised registration process. Audit also observed that none of the hospitals (including the DHs having computerised registration) were able to retrieve previous patient information constraining the patient to register afresh. Facility for online registration was also not available in any of the test-checked hospitals.

4.1.2 Inadequacy of registration counters

The 'waiting time' at the Reception/ Registration counter of a hospital plays a vital role in developing trust in the quality of service of medical treatment or diagnosis and long waiting time in hospital causes dissatisfaction among patients.

NHM Assessor guidebook (Vol-l) estimates the average time required for registration to be 3-5 minutes per patient, which roughly works out to about 20 patients/ hour per counter.

Audit examined the number of patients registered during 2018-19 in each test-checked DH along with the availability of registration counter(s) and it was observed that the available registration counter(s) were inadequate in three test checked hospitals viz. DHs at Tezu, Pasighat and TRIHMS as shown in the table below:

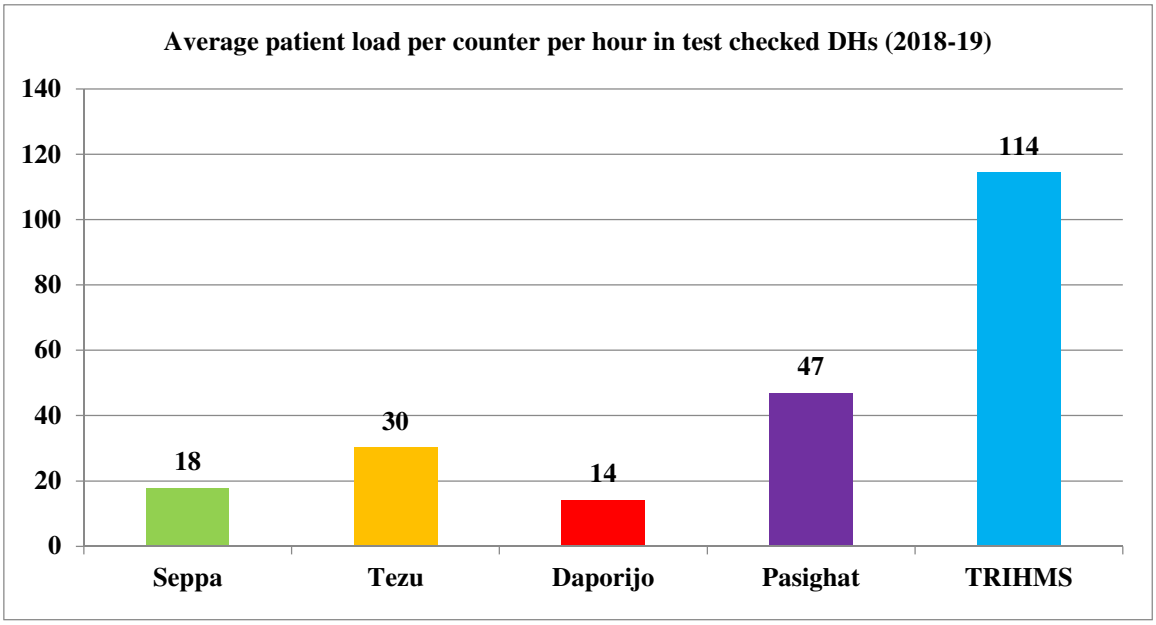
Table 4.1: Inadequacy of registration counters

Name of DH	Total number of registered patients	OPD registration hours per day	No of OPD working days during 2014-19	No of registration counters required {2/(4x3)}/20	No of counters available	Shortfall
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Seppa	20750	4	290	1	1	0
Tezu	35037	4	290	2	1	1
Daporijo	16419	4	290	1	1	0
Pasighat	54415	4	290	2	1	1
TRIHMS	265350	4	290	11	2	9

The average patient load per counter per hour registered during 2018-19 of the test-checked DHs was higher than the ideal limit of 20 patients per hour in three test check DHs as shown in the chart given below:

[2] Seppa and Daporijo

Chart 4.2



It would be seen from above chart that the average patient load per counter per hour was manageable in two sampled DHs whereas the same was more than 20 patients in three DHs with highest at TRIHMS where it was 114 patients per counter per hour. Due to excess patient load at the registration counters in TRIHMS, there were long queues of patients as depicted in the picture below:

Long queue at registration counter at TRIHMS

4.1.3 Waiting time

The 'wait time' for registration at the Registration counters and wait time between registration and consultation as per the response of 98 patients during Patient Satisfaction Survey conducted in the test-checked DHs is tabulated below:

Table 4.2: Waiting time for registration and between registration and consultation with the doctor in the test-checked DHs

(A) Wait time for registration

Name of the DH	Available registration counter	Number of patients surveyed	Wait time in minutes	
			0-5	More than 10
Seppa	1	15	12 (80%)	03 (20%)
Tezu	1	15	15 (100 %)	-
Daporijo	1	15	13 (87%)	02 (13%)
Pasighat	1	23	10 (43 %)	13 (57%)
TRIHMS	2	30	15 (50%)	15 (50%)

(B) Wait time between registration and consultation with the doctors

Name of the DH	Number of patients surveyed	Wait time ranged in minutes	
		10 - 15	More than 15
Seppa	15	15 (100%)	-
Tezu	15	15 (100%)	-
Daporijo	15	15 (100%)	-
Pasighat	23	14 (61%)	08 (39%)
TRIHMS	30	19 (63%)	11 (37%)

Source: Joint physical survey of test checked DHs

As can be seen from the table above:

- In GH Pasighat, out of 23 patients surveyed, 57 *per cent* said that they had waited for more than 10 minutes to get registered at the counters and 39 *per cent* had to wait for more than 15 minutes between registration and consultation with doctors;
- In TRIHMS, out of 30 patients surveyed, 50 *per cent* said that they had waited for more than 10 minutes to get registered at the counters and 37 *per cent* had to wait for more than 15 minutes between registration and consultation with doctors.

Thus, there was scope for further improvement of the waiting time for consultation by adding more counters, doctors and registration staff.

4.1.4 Patients load in OPD

IPHS norms prescribe that workload in OPD should be studied and measures should be taken to reduce the waiting time for registration, consultation, diagnostics, pharmacy etc. The norms also prescribe that hospitals should develop standard operating procedures (SOP) for OPD management, train the staff and implement the SOP. The number of out-patients attended to in the test-checked hospitals is shown in table below:

Table 4.3: Patient load in test-checked hospitals

Year	No. of OPD patients in DHs						Increase % (year on year)
	Seppa	Tezu	Daporijo	Pasighat	TRIHMS	Total	
2014-15	21240	41085	18251	79142	188790	348508	-
2015-16	22035	33261	24491	76761	203580	360128	(+) 3
2016-17	18955	30729	25066	84936	230690	390376	(+) 8
2017-18	19330	36069	22339	70309	239540	387587	(-) 1
2018-19	20750	35037	16419	54415	265350	391971	(+) 1

The decline in respect of DH Pasighat was due to bifurcation of the district and also due to opening of a bridge (Bogibeel Bridge in December 2018) in the vicinity, providing easy access to neighboring Dibrugarh in Assam.

From above table, it can be seen that there was an overall increase of 12 *per cent* in out-patient load in the test-checked hospitals/ CHCs in 2018-19 as compared to 2014-15. It was also observed that there is 41 *per cent* increase in patient OPD load in TRIHM and considering the increase in wait time at the registration counters and between registration and consultation with doctors, as brought out in the patient survey at para 4.1.3 above, there is an urgent requirement for increase in the number of registration counters. There was no evidence of any study of load in OPD having been conducted as stipulated in norms, and there were no SOPs in place for OPD management. This rising patient demand will put pressure on the healthcare system necessitating periodical assessment and consequent addressal of the gaps in resources required.

4.2 Signage

As per IPHS, proper signage system displaying essential information such as availability of Out-patient services, OPD working hours, directional signages to Emergency Rooms and other Departments is needed in each hospital so that patients and their attendants can get important information and be guided to the required rooms in a trouble-free manner. The availability of signage in the sampled DHs for various services is shown in below table:

Table 4.4: Availability of signage

Description of signage	Availability				
	Seppa	**Tezu**	**Daporijo**	**Pasighat**	**TRIHMS**
Citizen Charter	No	Yes	No	Yes	No
Hospital Layout with name of location and name of facility at the entrance	No	No	No	Yes	No
Directional signages for emergency, all the department and utilities	No	No	Yes	Yes	Yes
Florescent fire exit plan safety	No	No	No	No	No
Hazard and cautions sign at relevant places	No	No	No	No	No
Important contact number such as higher medical centres, fire department, police and ambulance	No	No	No	No	No
Mandatory information under RTI Act, PNDT Act, MTP Act etc.	No	Yes	No	No	Yes
List of services available with schedule of charges at the entrance of hospital	No	No	No	Yes	No

Source: Joint physical survey of test checked DHs

In Seppa DH, no signages were available for all the eight signages displaying essential information. It would be seen from the table that signages were not available uniformly in the sampled DHs. This would constrain easy access to information in locating available services in the DHs.

4.2.1 Availability of basic facilities in OPD

IPHS envisage providing minimum basic facilities in all the DHs. Audit observed the following shortcomings in provisioning of basic facilities such as drinking water, adequate seating facility, fans/coolers and functional toilets in the OPD premises of the test-checked hospitals, as shown in Table 4.5 below:

Table 4.5: Availability of basic facilities in OPD in sampled hospitals

OPD facilities	Status	Illustrative Photographic evidence
Availability of adequate/ suitable seating facility	Available but inadequate as per patient load in all test-checked DHs.	 Patients standing in the OPD area at TRIHMS due to inadequate number of chairs: Photo taken on 11/02/2020
Availability of separate toilets for men and women	Out of five test checked DHs, the facility was not available at Seppa and Daporijo. However, in Tezu toilet facility was available outside the OPD building.	 Patients have to go outside the hospital building to relieve themselves at the only available toilet at Tezu DH: Photo taken on 11/01/2020
Potable drinking water	Out of five DHs, the facility was not available in Seppa, Daporijo and TRIHMS.	 Drinking water facility at DH Tezu
Availability of disabled friendly toilet and wash basin.	Not available in any of test checked DHs, except TRIHMS	 Patient toilet for disabled, though available at TRIHMS, but remained locked. Photo taken on 07/02/2020
Fans/Coolers	Not available in any of test checked DHs except Pasighat	

OPD facilities	Status	Illustrative Photographic evidence
Standard operating procedures for OPD management	SOP for OPD management was not developed by the test-checked DHs.	
Computerised Registration	Registration process was not computerised in two out five DHs test checked. Even where the computers were installed they were not able to retrieve the patient information during the subsequent visits.	
Referral cases	Referrals made and referrals received as well as reasons for referrals are not captured in the system	
Clinical history of the re-visit	Diagnosis/ clinical history of the re-visiting patients were not captured in the computerized registration system.	
Online Registration	Online registration facility was not provided by any of the test-checked DHs	
Availability of entertainment such as TV, health information and reading material in waiting area	None of the test-checked DHs had provided these facilities.	

Thus, basis amenities as per guidelines were unavailable in the government district hospitals. There were no plans to introduce computerised/online patient registration facilities in all the DHs.

4.3 Availability of Specialist Services in OPD

IPH Standards provide that DHs should be provided essential specialist services called minimum assured services such as General Medicine, General Surgery, Obstetrics and Gynaecology, Paediatrics, Anaesthesia, Ophthalmology, Orthopaedics, ENT, Radiology, etc.

Availability of these specialist services in OPD of test-checked DHs are shown in below 4.6 table:

Table 4.6: Availability of Specialist Services in OPD

Sl. No	Name of Specialist services	Availability in test check hospitals				
		Seppa	Tezu	Daporijo	Pasighat	TRIHMS
1	General Medicine	Yes	No	Yes	Yes	Yes
2	General Surgery	No	Yes	Yes	Yes	Yes
3	Obstetric & Gynae	Yes	Yes	Yes	Yes	Yes
4	Paediatrics	Yes	Yes	Yes	Yes	Yes
5	Anaesthesia	Yes	Yes	No	Yes	Yes
6	Ophthalmology	No	Yes	No	Yes	Yes
7	Orthopaedics	No	Yes	Yes	Yes	Yes
8	Radiology	No	No	No	No	Yes
9	Pathology	No	No	No	Yes	Yes
10	ENT	No	No	No	Yes	Yes
11	Dental	Yes	Yes	Yes	Yes	Yes
12	Psychiatry	No	No	No	No	Yes
Total no. of service available		**5**	**7**	**6**	**10**	**12**

As it can be seen from the table that most of the essential services were not available in the DH at Seppa, Daporijo and Tezu. Further, except in TRIHMS, regular services of radiology were not available in any of the test-checked hospitals. In three[3] out of 5 test-checked DHs, Cardio Vascular services and ENT procedures were not available for want of specialist doctors. In two test-checked DHs[4], facilities for testing Dengue, Japanese Encephalitis were not available and even the minor surgeries and family planning procedures were not handled in the OPD.

In Seppa, Tazu, & Daporijo, essential diagnostic services like radiology and pathology were not present.

Non availability of basic/specialised services not only put extra load on TRIHMS but also made it inconvenient for patients who had to travel to these facilities to avail these services.

Conclusion

Three test-checked DHs namely TRIHMS, Pasighat and Tezu had inadequate registration counters as against the requirements. The average patient load per counter per hour in TRIHMS Pasighat and Tezu was 114, 47 and 30 respectively as against the norm of 20 patients per hour for registration.

The Out-patient Department of the test-checked district hospitals had various shortcomings in availability of basic facilities like lack of proper signage displaying various information, non-availability of separate toilets for men and women, potable drinking water, in-adequate suitable seating facility, lack of fan/cooler *etc.* Further, out of five DHs, the registration of patients was not computerised in two DHs. The referral cases and clinical history of patients was also not computerised. Against the provision of 12 specialist services in OPD, services were largely not available in four DHs with maximum shortage at Seppa (7) followed by Daporijo (6), Tezu (5) and Pasighat (2).

Recommendations

i. The State Government may take steps for computerisation of Registration process with increase of OPD counter as per patient load;

ii. The State Government may ensure availability of basic facilities/ service, Signage in the OPD of each hospital as prescribed in the Assessor's Guidebook for Quality Assurance of Services in District Hospitals, 2013 (Vol-1).

iii. The State Government may ensure availability of all 12 specialist services as per IPHS norms.

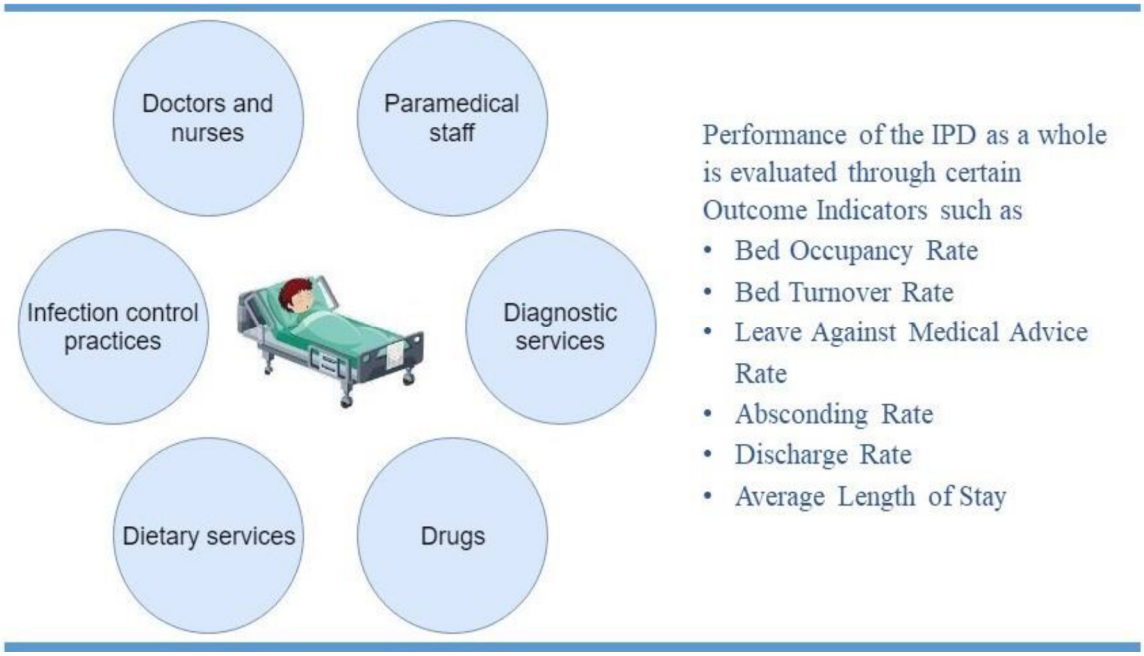
4.4 In Patients Department (IPD) Services

IPD refers to the areas of the hospital where patients are accommodated after being admitted, based on doctor's/ specialist's assessment, from the OPD, Emergency Services

[3] Seppa, Tezu and Daporijo
[4] Seppa and Daporijo

and Ambulatory Care. In-patients require a higher level of care through nursing services, availability of drugs/ diagnostic facilities, observation by doctors, etc.

Chart 4.3: IPD services in the hospital



4.4.1 Availability of services in the IPD of the test checked DHs

As per NHM Assessor's Guidebook, a DH should be provided with specialist in-patient (IPD) services related to General Medicine, General Surgery, Ophthalmology, Orthopaedics, etc.

Audit observed that most of the required services were however, not available in the test checked DHs as shown in the table below:

Table 4.7: Availability of IPD services in test checked hospitals

Hospital	Essential IPD Services								
	Act	Bur	Dia	GM	GS	Oph	Orth	ICU	Psy
Seppa	No	No	No	Yes	Yes	No	No	No	No
Tezu	No	No	No	Yes	Yes	No	No	No	No
Daporijo	No	No	No	Yes	Yes	No	No	No	No
Pasighat	No	No	Yes	Yes	Yes	No	No	No	No
TRIHMS	No	No	Yes	Yes	Yes	No	No	No	No

Source: Information furnished by the health centres

Act: Accidents and Trauma, Bur: Burns ward, Dia: Dialysis, GM: General medicine, GS: General surgery, Oph: Ophthalmology, Orth: Orthopaedics, ICU: Intensive care unit, Psy: Psychiatry.

As can be seen from the above table, in-patient services for Accidents & Trauma, Burns, Ophthalmology, Orthopaedics, Intensive care unit, and Psychiatry were not available in any of the test checked DH, while dialysis service was available only in GH Pasigaht and TRIHMS. Due to non-availability of all in-patient services, the DHs failed to provide

comprehensive health care services to the people and they were compelled to go outside from their respective districts/state to avail healthcare service.

4.4.2 Rosters for doctors and nurses

NHM Assessor's guidebook provides that DH should have an established procedure for duty roster for doctors and nurses in IPD to ensure round the clock availability.

Audit noticed that duty roster for nurses were maintained in every hospital. However, the same was not found maintained for doctors. It was thus not ascertainable whether doctors were available for providing various indoor health care services in IPD as attendance register or duty roster were not found maintained. While no doctor is available all times in any of test checked DHs, only the doctor available in emergency was catering to the needs of the IPD also. It was informed that doctors were always available 'on call' in IPD. Rules envisage availability of doctor within the hospital as per duty roster and availability of doctors on call basis cannot be treated as compliance with the prescribed guidelines. Thus, indoor speciality services are not available as envisaged.

4.4.3 Referred out patients

During 2014-19, out of 1,05,221 patients[5] admitted in the test-checked DHs, 5661 patients (5.38 *per cent*) were referred out by the test-checked DHs. Hospital-wise number of cases referred out during 2014-19 is given in the table 4.8 below:

Table 4.8 : Cases referred out during 2014-19 in test checked DHs

Year	Seppa	Tezu	Daporijo	Pasighat	TRIHMS
2014-15	267	175	NA	NA	144
2015-16	746	460	NA	NA	154
2016-17	555	298	NA	NA	159
2017-18	553	259	267	26	216
2018-19	550	309	125	145	253
Total	**2671**	**1501**	**392**	**171**	**926**
Total IPD during 2014-19	14447	8851	2979 (during 17-19)	20751 (during 17-19)	58193
% of referred out of IPD	18.48	16.95	13.19	0.82	1.59

As can be seen from the Table above, DH Seppa, GH Tezu and DH Daporijo had referred out 18.48 *per cent*, 16.95 *per cent* and 13.19 *per cent* of their patients respectively. Reasons attributed by the test-checked DHs for the referral out of patients are non-availability of facilities, absence of specialized doctors & services like blood bank & OT, lack of equipment, absence of ICU, dialysis & other equipment.

4.5 Referral from PHC and CHC to DHs

The primary responsibility for maternal and infant care in rural areas is with the PHCs and CHCs and generally, only referral cases are handled by the DHs. To have a holistic picture

[5] Figures of DH Daporijo and GH Pasighat are taken only for two years (2017-19) since number of patients referred were not available for the period from 2014-17.

for the state as a whole, Chiputa PHC and Doimukh CHC within the district hospital radius of the capital district i.e. Papumpare were test-checked in audit and referral cases relating, especially to maternal and child care issues from these health facilities were examined. Details of cases which were referred to District Hospital (TRIHMS) for further treatment is shown in the Table-4.9 below:

Table-4.9: Details of referral cases of sampled CHC & PHC

Year	No. of cases relating to					
	Maternal health		Child care issues		Others	
	PHC	CHC	PHC	CHC	PHC	CHC
2014-15	0	29	0	30	0	15
2015-16	22	32	0	15	0	10
2016-17	15	30	0	32	0	12
2017-18	25	20	0	28	0	16
2018-19	15	22	0	30	11	10
Total	**77**	**133**	**0**	**135**	**11**	**63**

As can be seen from Table-4.9, 210 cases of maternal health (PHC-77 & CHC 133), 135 cases of child care (CHC 135) and 74 cases of other issues (PHC 11 & CHC 63) totalling 419 cases were referred to District Hospital during 2014-19.

Reasons for referral of cases to DH were as given under:

1. PHC Chiputa was upgraded (2013) from Health Sub-Centre to Primary Health Centre. However, it has not been equipped with commensurate infrastructure prescribed for PHC. Non utilisation of funds under Major Works is a major reason.
2. Though there were four doctors (three allopathic and one AYUSH) in Chiputa Primary Health Centre (PHC) it did not provide any delivery service including normal delivery except ANC services for pregnant women.
3. The PHC offered none of diagnostic services prescribed, except estimation of Haemoglobin (Hb %).
4. Speciality services for General Surgery, Medicine, Obstetrician & Gynaecology, Paediatrician and Anaesthesia were not available in Doimukh CHC.
5. C-Section delivery services at the facility was also not available as the Operation Theatre (OT) was non-functional.
6. Essential laboratory and diagnostic services for radiology, ophthalmology, cardiac investigation and pathology are not available. Poor allocation of funds under machinery/ equipment and its sub optimal utilisation was a major constraining factor.

The above scenario of unavailable services saddles the already strained resources of the DH for even routine maternal and child care services, compromising its effectiveness in dealing with referral cases requiring specialised services.

4.6 Adequacy of Emergency Services

Emergency services in DH are provided by Emergency ward or Emergency Room (ER) which is a medical treatment facility specialising in acute care of patients who come in emergency situation. Due to the unplanned nature of patient attendance, the department provides initial treatment to a broad spectrum of ailments and injuries, some of which may be life threatening and require immediate medical attention. Therefore, IPHS envisages 24x7 operational emergency with dedicated emergency room in every district Hospital.

Audit observed that that though emergency rooms were available in all test checked DH, none of them had accident and trauma care wards. Further, the following deficiencies were noted as against IPH norms:

(i) As per IPHS norms, Emergency should have distinct entry independent of OPD entry to minimise the time lost in giving immediate treatment. Audit noticed that DHs at Seppa and Tezu does not have distinct entry and the entry was through a common entrance.

(ii) Emergency shall have dedicated triage, resuscitation and observation area and screens shall be available for privacy. The facility was available in all test checked DHs except at Seppa wherein dedicated triage area was not available.

(iii) Separate provision for examination of rape/ sexual assault victim should be made available in the emergency as per guidelines of the Hon'ble Supreme Court. It is seen that none of the DHs had any separate provisions for the purpose.

(iv) IPHS require the following equipment, facilities, *etc.* to be available in Emergency room. The availability of the following in test-checked DHs is shown in the table 4.10 below:

Table 4.10: Availability of facilities in emergency room at DHs.

Sl. No.	Equipment/ Facility	Seppa	Tezu	Daporijo	Pasighat	TRIHMS
1.	Mobile X-ray	No	No	No	No	Yes
2.	ECG	No	No	No	No	Yes
3.	Pulse Oxymeter	No	No	No	No	No
4.	Cardiac Monitor with defibrillator	No	No	No	No	Yes
5.	Multiparameter Monitor	No	No	No	No	Yes
6.	Ventilator	No	No	No	No	Yes
7.	Laboratory	No	No	No	Yes	No
8.	Emergency Beds	Yes	Yes	Yes	Yes	Yes
9.	Side labs/ plaster room	No	No	No	Yes	Yes
10.	Minor OT facilities	Yes	Yes	Yes	Yes	Yes
11.	Duty room for Doctors/ Nurses/ paramedic staff	Yes	Yes	Yes	Yes	Yes
12.	Separate waiting area	Yes	Yes	Yes	Yes	Yes
13.	Public amenities for patients and relatives	No	No	No	No	Yes
	No of equipment/facility available	**4**	**4**	**4**	**6**	**11**

Source: records of the test-checked DH

From the Table above, it can be seen that Mobile X-ray, Ventilator, ECG facility, cardiac monitor and multi parameter monitor were not available in any of the DH's emergency room except at TRIHMS. Availability of equipment/ facilities also varied which ranged from six out of 13 in Pasighat, followed by four each in Seppa, Tezu and Daporijo whereas in TRIHMS, 11 out of 13 equipments were available.

Even in TRIHMS, cardiac monitor and defibrillator supplied for emergency use were kept idle in an almirah as shown in picture. The non/ short availability of required facilities/ equipment can adversely impact the emergency services of the DH.

The reply of the Department was not received (August 2020).

4.7 Intensive Care Unit Services

IPHS norms envisage that each DH should have an Intensive Care Unit (ICU) with highly specialised staff and equipment which is essential for critically ill patients requiring highly skilled life-saving medical aid and nursing care. These include major surgical and medical cases such as head injuries, severe haemorrhage and poisoning. The IPHS norms stipulate that the ICU in DH should have at least 4 beds in it which can be gradually increased to 5 to 10 *per cent* of the bed strength of the hospital. Further, intensive care services in a DH are essential for providing minimum assured services as per the IPHS for DHs.

Audit observed that none of the sampled DHs had ICUs. The ICCU facility was also not available in any of the DHs test-checked. In the absence of ICU facility, patients approaching district hospitals despite being in an emergent and critical condition had to be referred and/or passed on to higher facility, public or private hospitals in other states.

Admitting the audit finding, the Secretary Health and Family Welfare during Exit Conference stated that seven new ICUs have been setup recently to deal with Corona-19 crisis.

4.8 Operation Theatre (OT) services

Operation Theatre (OT) is an essential service and IPHS guidelines prescribe OTs for elective major surgery, emergency services and Ophthalmology/ENT for DHs. Availability of OTs required for various services is shown in **Table** below:

Table 4.11: Availability of OTs in test checked hospitals for various services

Hospital	Availability of OT for		
	Elective major surgeries	Emergency surgeries	Ophthalmology/ENT
Seppa	No	No	No
Tezu	Yes	No	Yes
Daporijo	Yes	No	No
Pasighat	Yes	Yes	Yes
TRIHMS	Yes	No	Yes

As can be seen from Table-4.11 above, OT for emergency surgeries were not available in any of sample DH except in Pasighat. Out of five DHs test checked, in one DH (Seppa) there was no surgeon available for providing OT services while in two DHs (Tezu and TRIHMS) specialist doctors were partially available. Further, Seppa did not have any kind of OT in the DH for surgery. This denied patients from receiving even minor surgical operations as part of the treatment process.

The reply of the Department was not received (August 2020).

4.8.1 Availability of essential OT drugs and equipments

Audit checked availability of 23 types of drugs[6] and essential equipment as prescribed in NHM Assessor's Guidebook during 2018-19 for OTs in the test-checked hospitals and observed significant shortages, as shown in table below:

Table 4.12: Availability of essential OT drugs and equipments in test checked hospitals

Name of DHs	Availability of OT drugs (%)	Availability of OT equipments (%)
Seppa	OT is not available	OT is not available
Tezu	50	29
Daporijo	59	29
Pasighat	95	59
TRIHMS	46	65

As evident from the table given above, the essential drugs and equipment in OTs were short in respect of all hospitals. Significant shortage of equipment was observed in all hospitals. Similarly, shortage of more than 40 *per cent* of essential drugs was noticed in three hospitals except DH Pasighat. Thus, the resources available for OTs in the test-checked hospitals were insufficient, implying that quality of surgical treatment would have been adversely affected in these test-checked hospitals.

[6] Inj. Oxytocin, Inj. Ampicillin, Inj. Metronidazole, Gentamycin, Inj. Diclofenac Sodium, IV fluids, Ringer Lactate, Plasma expander, Normal saline, Inj. Magsulf, Inj. Calcium gluconate, Inj. Dexamethasone, Inj. Hydrocortisone Succinate, Diazepam, Pheneramine maleate, Inj. Corboprost, Fortwin, Inj. Phenergen, Betameathazone, Inj. Hydrazaline, Methyldopa, Nefidepin and Ceftriaxone

4.8.2 Documentation of OT procedures

NHM Assessor's Guidebook prescribes that surgical safety checklist, pre-surgery evaluation records and post-operative evaluation records for OTs should be prepared for each case. The availability of required records in the five test-checked DHs during 2014-19 was as detailed in below table:

Table 4.13: Documentation of OT procedures

Name of DHs	Surgical safety checklist	Pre-surgery evaluation records	Post-operative evaluation records
TRIHMS	Partially maintained		
Seppa, Tezu, Daporijo and Pasighat	Not maintained		

In the absence of surgical safety checklist, pre-surgery evaluation records and post-operative evaluation records for OTs, it was not ascertainable whether safety procedures in OTs were adhered to in the test-checked DHs.

4.9 Absence of Trauma Care centre

Road traffic deaths and injuries are unpredictable and preventable. It is an accepted strategy of Trauma Care that if basic life support, first aid and replacement of fluids can be arranged within first hour of the injury (the golden hour), lives of many of the accident victims can be saved.

Audit observed that Trauma Care Centre was not available in any of the test-checked DH. In the absence of a functional trauma care centre in the test-checked DHs, patients with serious injuries were referred out to higher facilities located within and outside the State thus, losing the vital golden hour.

4.10 Diagnostics services

Efficient and effective radiological and pathological diagnostic services are amongst the most essential health care facilities for delivering quality treatment to the public based on accurate diagnosis. Audit observed that in four[7] out of the five test-checked DHs, full diagnostic services were not available. Audit further observed that many of the significant radiology and pathology tests were not performed in the test-checked hospitals due to lack of required equipment and skilled manpower. Significant audit findings are discussed in the succeeding paragraphs.

4.10.1 Radiology services

The role of radiology is central to the detection, staging and treatment of diseases. Therefore, adequate availability of functional radiology equipment, skilled human resources and consumables are the key requirements for the delivery of quality radiology services.

[7] Seppa, Tezu, Daporijo and Pasighat

4.10.1.1 Availability of radiology services

IPHS 2012 prescribed services for the hospitals (X-ray, Ultrasonography and CT scan) and for CHCs (X-ray and Ultrasonography). The availability of radiology services in the test checked hospital is as under:

Table 4.14: Availability of radiology services in test checked hospitals

Service Name	Availability of services				
	Seppa	Tezu	Daporijo	Pasighat	TRIHMS
X-ray for Chest, Skull, Spine, Abdomen, Bones	Yes	Yes	Yes	Yes	Yes
Barium swallow, Barium meal, Barium enema, IVP	No	No	No	No	Yes
Mass Miniature Radiography (MMR - Chest)	No	No	No	No	No
Hysterosalpingography (HSG)	No	No	No	No	No
Dental X-ray	No	Yes	No	Yes	No
Ultrasonography (USG)	No	No	Yes	Yes	Yes
CT Scan	No	No	No	Yes	Yes
No. of services not available	**6**	**5**	**5**	**3**	**3**

Audit observed that in none of the test-checked DHs all the prescribed radiology services were available during 2014-19. Audit further observed that this was mainly due to non-availability of required radiology equipment and skilled human resources. In four[8] of the five test-checked DHs, the radiology tests recommended by the doctors and the results thereof were not mentioned in the patients' records. Only the lab technicians of the respective labs were keeping a note of the tests conducted. The DHs also does not have a system for conducting diagnostic tests in emergencies as the partial diagnostic services were available only during the specified timings on all working days. Short availability of the full range of radiology services impacted the efficiency and appropriateness of level of care offered in hospitals. There were also serious gaps in the basic provision of radiology services like Dental x-ray, Ultrasonography, etc., in the test-checked hospitals thereby limiting the access of patients to evidence based treatment facilities and quality care.

4.10.1.2 AERB licences for radiology machines

As per Atomic Energy (Radiation Protection) Rules 2004, for establishing X-ray and CT scan unit, a license from the Atomic Energy Regulatory Board (AERB) is necessary. Further, as per AERB layout for X-ray room, the walls should be 23 cm (9 inch) thick made of brick and room should be completely cut off from direct light.

Audit observed that the requisite licence from AERB was not obtained for DH Seppa and DH Tezu.

[8] Tezu, Daporijo, Pasighat and TRIHMS

Figure: X-Ray room in SPT building at Tezu DH

Further, X-Ray machine was installed in SPT type building with 2-inch-thick wall at DH Tezu contrary to the norms of AERB as shown in picture. Reasons for non- compliance of AERB norms, which has implications for safety of patients as well as staff vis-à-vis potential exposure to excess radiation, was not made available.

4.10.2 Laboratory services at test checked DHs

The District Hospital Laboratory is expected to serve the purpose of public health laboratory and should be able to perform all tests required to diagnose epidemics or important diseases from public health point of view. IPHS prescribed 29 to 70 types of pathological investigations under different categories, viz., Clinical pathology, Pathology, Microbiology, Serology, Biochemistry, etc., to be carried out in the District-level hospitals.

Audit observed that the full range of pathological investigations was not available in any of the test-checked hospitals as shown below:

Table 4.15: Availability of pathology services in test checked hospitals

Speciality	Services required as per norms	Availability of services				
		Seppa	Tezu	Daporijo	Pasighat	TRIHMS
Clinical Pathology	29	16	17	18	26	18
Pathology	8	0	0	0	4	3
Microbiology	7	1	0	0	3	4
Serology	7	6	6	5	4	5
Blood Bank	1	0	0	0	1	1
Biochemistry	21	11	6	10	13	8
Cardiac investigation	3	1	1	1	1	2
Ophthalmology	3	1	3	0	3	2
ENT	2	0	0	0	1	1
Endoscopy	8	0	0	0	0	4
Respiratory	1	0	0	0	1	0
Total	**90**	**36**	**33**	**34**	**57**	**48**
Percentage (%)		**40**	**37**	**38**	**63**	**53**

It is seen that test-checked hospitals lacked investigation facility under one or more sub-categories. Test facilities like lipid profile was not available in DH Tezu, serum phosphorous testing is not available in any test-checked DHs, ECG facility is not available in DH Seppa and DH Tezu. Critical investigations like culture and sensitivity for blood, sputum and total RBC count are not available in four[9] out of five test-checked DHs. Some of the pregnancy tests like urine gravindex Elisa were also not available in three[10] out of five test-checked hospitals. Further, none of the desired investigations under the

[9] Seppa, Tezu, Daporijo and Pasighat
[10] Daporijo, Pasighat and TRIHMS

pathology, ENT, Endoscopy, Blood bank and Respiratory sub-categories were carried out in DH Seppa, DH Tezu and DH Daporijo. Audit observed that non-availability of essential equipment and short-deployment of skilled human resources in the test-checked hospitals were amongst the reasons for the absence of desired investigation facilities. Non-availability of diagnostic services as prescribed in IPHS deprived the public of availing evidence-based health care.

Accepting audit findings on the availability of diagnostic services in the District Hospitals, the Secretary during Exit Conference stated that there is need to improve diagnostic service in the state.

4.10.3 Shortage of laboratory equipment

IPHS prescribe 21 to 51 types of pathology equipment for the hospitals depending upon their bed capacity. Audit observed that the full range of prescribed pathology equipment was not available in the test-checked hospitals as detailed in the below table:

Table 4.16: Availability of laboratory equipment in test checked hospitals

Name of Hospital	Required equipment	Availability	Percentage availability
Seppa	123	44	36
Tezu	123	53	43
Daporijo	123	23	19
Pasighat	123	95	77
TRIHMS	123	70	57

It is seen from the above that availability of equipment in sampled hospitals ranged from 19 to 77 *per cent* . Shortfall of more than 60 *per cent* in the number of equipment was noticed in DHs Seppa and Daporijo. This is despite availability of funds under the head.

Thus, test-checked hospitals did not have prescribed pathological equipment which affected the quality of patient care offered by these hospitals.

The reply of the Department was not received (August 2020).

Shortage of Laboratory Technicians

Laboratory Technicians (LTs) are the key personnel for in-house laboratories and are responsible for taking samples and carrying out all prescribed pathological investigations. Men in position of LTs vis a vis norm in test-checked DHs is detailed in the below table:

Table 4.17: Position of LTs in the test-checked DHs as on March 2019

Name of the Hospital	Requirement of LTs as per IPHS norms	Actual Persons-in-Position as of March 2019	Excess (+) Shortage (-) (*per cent*)
Seppa	6	2	(-) 4 (67)
Tezu	6	4	(-) 2 (33)
Daporijo	6	9	(+) 3 (50)
Pasighat	6	10	(+) 4 (67)
TRIHMS	12	21	(+) 19 (75)
Total:	**36**	**46**	**(+) 10 (28)**

Source: information furnished by test-checked DH

It is seen from the table that while two DHs namely Seppa and Tezu were facing shortage of 67 *per cent* and 33 *per cent* respectively, there was excess deployment in other three DHs ranging from 50 *per cent* (Daporijo) to 75 *per cent* (TRIHMS). Asymmetrical deployment of LTs indicated that there was need for rationalisation of deployment of manpower particularly in LTs. It also indicated that due to absence of basic/special services in other DHs, there was immense pressure/patient load on TRIHMS.

The reply of the Department was not received (August 2020).

4.10.4 Quality assurance of laboratory services

IPHS guidelines stipulated that external validation of laboratory reports is to be done on a regular basis to ensure that the patients were given accurate reports.

- Audit, however, observed that quality testing of in-house pathological services was not done during 2014-19 in any of the test-checked DHs. As a result, none of the test-checked DHs sent sample of test results of in-house pathology services for external assessment and validation during 2014-19.
- Accuracy of all measuring devices degrades over time. Therefore, periodic calibration of laboratory equipment is required to check accuracy and improve test quality. Audit, however, noticed that periodic calibration of laboratory equipment was not done in any test-checked DHs, except Pasighat.

Thus, building minimum quality standards into the health system remains a challenge.

The reply of the Department was not received (August 2020)

4.11 Patients right and Grievance Redressal

For effective redressal of grievances of patients, NHM Assessor's Guidebook envisaged a mechanism for receipt, registration and disposal of complaints on a first-come-first-serve basis, noting of action taken in respect of complaints in a register, periodic monitoring of system of disposals and follow-up by superior authorities as necessary.

Audit noticed that out of the five sampled DHs, complaint box for receipt of complaints were available only in TRIHMS. However, no records for taking any action to redress the grievances of the patients were found.

4.12 Patients safety

National Building Code of India 2016, Part 4, Fire and Life Safety required that fire extinguishers must be installed in every hospital, so that the safety of the patients/attendants/visitors and the hospital staff may be ensured in case of any fire in the hospital premises. Further, Assessor's Guidebook for Quality Assurance in District Hospitals, 2013 stipulates that hospital should have a plan for prevention of fire. Also, the facility should have a system of periodic training of staff and regular conduct of mock drills for fire and other disaster situation.

Audit observed the following discrepancies in the test-checked DHs:

- DHs at Tezu and Daporijo did not have any plan for prevention of fire whereas Seppa, Pasighat and TRIHMS claimed to have a plan but could not produce the same.
- DHs at Seppa, Tezu and Daporijo did not have adequate fire-fighting equipment. In TRIHMS, though fire-fighting system was in place, but was not functional.
- Neither any periodic training of staff was imparted nor were mock drills for fire and other disaster situation conducted at Tezu, Daporijo and TRIHMS

Thus, the District Hospitals did not have adequate arrangements for fire safety and other disaster.

Conclusion

In all the test-checked DHs, in-patient services for Accident & Trauma, Burns, Orthopaedics, Ophthalmology and Psychiatry were not available, while dialysis indoor service was available only in Pasighat and TRIHMS. ICU services were also not available in all the test-checked DHs and OT services were not available in Seppa DH. Round the clock availability of doctors was not ensured through maintenance of duty roster of doctors. The DHs had not planned for these services/facilities to be introduced in all DHs, to make them comprehensive facility centres. The diagnostic services in the test checked hospitals were inadequate to the extent that the test-checked DHs were neither having all prescribed radiology services nor pathology services. As regards laboratory equipment, in test checked DHs, availability of essential equipment ranged from 19 to 77 *per cent*, thereby impacting the availability and timeliness of comprehensive diagnostic services to the public. This is despite availability of funds. There was no quality assurance of the laboratory services of the DHs for want of external assessment/validation of the services and periodic calibration of testing equipment not having been done.

Further, fire safety of patients, attendants, medical personnel and the hospital buildings had not been ensured by the concerned hospital administration. Grievance Redressal Committee/Cell did not exist in all the hospitals except TRIHMS.

Recommendations

i. Government may proactively synergise availability of specialised in-patient services along with the essential drugs, equipment and human resources in district hospitals.

ii. OT, ICU and Trauma care services be made available in all the DHs with required manpower, equipment and drugs.

iii. The availability of round the clock doctors and nurses in DHs needs to be ensured.

iv. The quality of diagnostic services which are crucial for patient care and treatment be made comprehensive as per requirements. The State Government/hospital administration must ensure availability of all essential equipment

v. *The quality assurance mechanism for diagnostic services may be put in place for all the DHs.*

vi. *The hospitals may rigorously adhere to the National Building Code 2016 to ensure safety of patients/ attendants/ visitors and the hospital staff from fire incidents. The Hospital administration may also ensure adequate documentation of availability of fire safety measures for verification.*

vii. *The grievance redressal mechanism be activated so that hospitals improve performance by tailoring interventions effectively to address the issues related to patient satisfaction.*

Chapter – 5: Support Services

Whether support services like drug storage, sterilisation, hygiene, waste management, infection control, ambulance, power back-up/ UPS etc. had aided the line departments in providing a safe and sterile environment.

5.1 Storage of Drugs

The Drugs and Cosmetic Rules, 1945 stipulate parameters for the storage of drugs in stores to maintain the efficacy of the procured drugs before issue to patients. Audit during joint physical verification observed that the norms and parameters prescribed in the said Rules were not adhered in the test-checked DHs as detailed in Table-5.1 below:

Table - 5.1: Deficiencies in storage of drugs

Parameters	Deficiencies observed during JPV
Availability of cold room/ refrigerators in the district drugs warehouse to avoid loss of efficacy and shelf-life of the Drugs.	Cold room/ refrigerators/ freezers were not available in any test-checked hospitals. System to control room temperature and relative humidity was also not available.
Availability of labelled shelves/ racks/ floor pallet to ensure storage of drugs away from walls and floor.	Shelves and racks, Cupboard for the storage of specific products that must be kept free from dust or light were not available in Drug warehouse of TRIHMS. Floor Pallets were also not used to ensure storage of drugs off the floor in the drug warehouse of the hospital, instead the medicines containers/ consignments were stored directly on the floor. Thus, loss of efficacy and shelf life of drugs due to improper storage cannot be ruled out.
Availability of designated salvage area to store expired drugs separately so as to avoid mixing of expired drugs with usable drugs.	Except Pasighat, no designated salvage area was available to store expired/ damaged drugs separately. Thus, the possibility of expired drugs getting mixed up with usable medicines cannot be ruled out
Availability of separate space for storage of phenyl, bleaching powder and other poisonous medicines to avoid/ prevent contamination with general medicines.	In all the test-checked district drug warehouses, no separate space/area for storage of Phenyl, bleaching powder and other poisonous medicines/ chemicals was available. Thus, possibility of mix up with general medicines cannot be ruled out.
Existence of Stock control mechanism	In all the test-checked district drugs warehouses, random and periodic checking system by higher authority and stock auditing system was not ensured, time to time physical count of stock was not practiced, bin cards system was not maintained and the stock accounts were not computerised.

It is evident from Table-5.1 above that due to deficiencies noticed in the system of drug storage in the test-checked hospitals, the efficacy of drugs distributed to the patients could not be assured. The DHs as well as the Hospital Superintendents had neither put in place any system for proper stocking and verification of medicines and nor had they monitored the crucial functions relating to drug storage.

5.1.1 Deficiencies in management of pharmacy

IPH Standards stipulate provision of a pharmacy with adequate size which should be located in an area conveniently accessible from all clinics. The pharmacy shall have standard operating procedure for stocking, preventing stock-out of essential drugs, receiving, inspecting, handing over, storage and retrieval of drugs, checking quality of drugs, inventory management (ABC& VED), storage of narcotic drugs, checking pilferage, date of expiry, pest and rodent control etc. Further, as per NHM Assessor Guidebook, future requirement of drugs should be calculated in a systematic manner using past average demand and documented for easy reference. The facility should have a system for the Drug Store to recall expired medicines from patient care areas.

Audit observed the following deficiencies in the management of pharmacy in the test checked hospitals:

- DHs did not have adequate space for storage of drugs and consumables. As a result, drugs and consumables were kept in the corridors or in whatever space is available in the hospital, as depicted in the pictures below:

In-adequate storage space for drugs

ICCU at TRIHMS used as a store

- None of the test-checked hospitals had a systemic method to calculate the future requirements of medicines.
- DHs at Seppa and Tezu did not have a system in place to compile and monitor the medicines available in the central drug store.
- DH Daporijo did not have a Central Drug Store and had not maintained stock registers for medicines during 2014-19.

5.2 Infection control

Infection control practices are important in maintaining a safe environment for both patients and staff in the hospitals by reducing the risk of potential spread of hospital associated infections.

5.2.1 Standard Operating Procedures for Infection Control in DHs

To prevent hospital acquired infections in patients, visitors and staff, NHM Assessor's Guidebooks requires that DHs frame a schedule of procedure to be followed by the health care facilities known as Standard Operating Procedures (SOPs). NHM Assessor's Guidebook also requires that for cleaning and disinfection of patient care areas, a checklist for hygiene and infection control has to be maintained in each hospital.

Audit, however, observed that during 2014-19, SOPs for infection control were not available in any test-checked DHs. Non-availability of SOPs resulted in a lack of structural response to issues of hygiene and infection control.

5.2.2 Hospital Infection Control Committee (HICC)

As per NHM Assessor's Guidebook 2013, Hospital Infection Control Committee (HICC) has to be constituted to frame, implement and monitor infection control policies in the hospital.

Audit observed that none of the test-checked DHs have an Infection Management Policy. Further, except DH Pasighat, Hospital Infection Control Committee (HICC) was not formed in the other test-checked DHs. Audit also observed that none of the test-checked DHs monitored and measured the associated infection rates in the hospital and that only DH Pasighat carried out periodic medical check-up and immunisation of staffs. It was further observed that DH Tezu and DH Daporijo did not conduct any training of healthcare workers in patient safety, infection control and bio-medical waste management. It indicates that health authorities did not pay due attention for prevention of infection and maintenance of hygiene in the DHs.

5.2.3 Pest and rodent control

Controlling spread of infection through rodents and pests in the hospitals is an important component of infection control practices as per NHM Assessor's Guidebook. Audit observed that none of the test-checked DHs maintained records for pest and rodent control for the period 2014-19. In the absence of records, audit could not derive an assurance whether pest and rodent control practices were actually followed in the test-checked hospitals.

5.2.4 Cleanliness in the Hospitals:

NHM Assessor's Guidebook 2013 requires that the hospitals should ensure decontamination of functional areas.

Audit observed the following deficiencies during physical verification of healthcare facilities:

Table 5.2: Poor cleanliness in test checked DHs

<table>
<tr><td>Toilet in poor condition: Audit noticed that the toilets in the test-checked DHs were in poor condition due to absence of regular cleaning as shown in the photographs:</td><td> 
Dirty and unhygienic toilet in Tezu GH</td><td> 
unhygienic urinal at Seppa</td></tr>
<tr><td>Distance of at least 2.5 metre between centres of two beds to prevent cross infection and allow bedside nursing care was not ensured in Tezu, Daporijo and Seppa DHs.</td><td> 
Tezu CH (2 meter)</td><td> 
Seppa (2 meter)</td></tr>
<tr><td>Heavy seepage at various locations in Seppa and Daporijo DHs were noticed</td><td> 
Seepage from ceiling at Seppa</td><td> 
Seepage in stairs at Daporijo</td></tr>
<tr><td>IPHS envisaged that size of the corridors should be at least 3.0 m wide to ensure smooth manoeuvrability of wheeled equipment, etc.</td><td>Width of corridors were of 2.5 meter, 2.0 meter and 2.0 meter at Pasighat, Daporijo and Tezu DHs respectively.</td><td> 
Corridor of 2 meter at Tezu</td></tr>
<tr><td>Roads shall be illuminated in the nights</td><td colspan="2">In absence of any lights at TRIHMS, Daporijo and Tezu, the facilities remained dark in night.</td></tr>
</table>

5.3 Hospital waste management

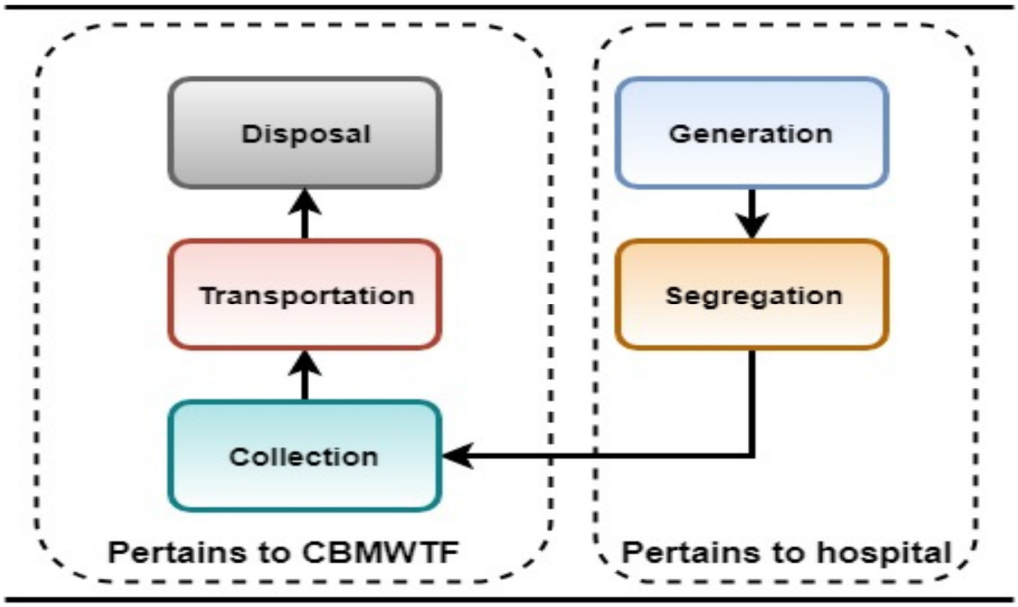
Hospital waste management, also known as medical waste management, is a system that handles hospital-generated waste, including infectious, chemical, expired pharmaceutical and radioactive items, and sharps.

5.3.1 Bio-medical waste management

Bio-medical waste (BM waste) is generated during procedures related to diagnosis, treatment and immunisation in the hospitals and its management is an integral part of infection control within the hospital premises. The GoI framed Bio-Medical Waste (Management and Handling) Rules, 1998 under Environment (Protection) Act, 1986, which were superseded by Bio-Medical Waste Management Rules, 2016 (BMW Rules). The BMW Rules stipulate the procedures for collection, handling, transportation, disposal

and monitoring of the BM waste with clear roles for waste generators and Common Bio-Medical Waste Treatment Facility (CBMWTF) as shown in the chart below:

Chart-5.1



5.3.2 Generation of bio-medical waste

Authorisation for generating bio-medical waste

The BMW Rules requires the hospitals generating BM waste to obtain authorisation from the State Pollution Control Board (SPCB). The category-wise quantity of BM wastes generated and their disposal were to be forwarded to SPCB in a prescribed format annually. Audit noticed that none of hospitals except DH, Pasighat obtained authorisation for generating bio-waste nor were they sending the requisite information to the SPCB.

5.3.3 Segregation of bio-medical waste

The BMW Rules require hospitals to segregate different categories of BM waste in separate coloured bins at the source of generation. The waste is to be stored in appropriate colour coded bags at the point of generation and collected by the Common Bio-Medical Waste Treatment Facilitator (CBMWTF). BMW Rules further mandated segregation of the waste at source and its pre-treatment or neutralisation prior to mixing with other effluent generated from health care facilities. Audit observed that the segregation of BM waste was not done in DHs at Tezu, and Daporijo. Further, in respect of liquid chemical waste generated in health care facilities, Audit observed that in none of the test-checked hospitals, an Effluent Treatment Plant (ETPs) was planned nor established for pre-treatment of the liquid chemical waste generated in the hospital, resulting in drainage of the waste directly into the sewerage system. This was not only a violation of the BMW Rules but also hazardous to public health at large.

5.3.4 Collection of bio-medical waste

As per BMW Rules, CBMWTF is responsible for collection and proper disposal of BM waste from the hospitals. Audit however observed that there was no facility of CBMWTF

in any of the test-checked districts. The BM waste was thus disposed off by hospitals themselves. Further, the test-checked DHs did not have adequate BMW treatment plants such as incinerator, autoclave, shredder and Effluent Treatment Plant (ETP). The position of availability of BMW treatment plants in Health Care Establishments (HCEs) jointly inspected is as under:

Table 5.3: Availability of BMW treatment plants

Sl. No.	Name of Hospital	Availability of plants			
		Incinerator	Autoclave	Shredder	ETP
1	Seppa	No	No	No	No
2	Tezu	No	No	No	No
3	Daporijo	No	No	No	No
4	Pasighat	Yes	No	No	No
5	TRIHMS	No	No	No	No

The BMW Plants installed in DHs at Seppa (2016), Daporijo (2011) and Tezu (2014) were found defunct and non-functional as depicted in the below picture:

Figure: Defunct/non -functional Incinerator plant at Seppa, Daporijo and Tezu

5.3.5 Training for management of bio-medical waste

As per the BMW Rules, it is the responsibility of the hospital management to ensure that all staff are provided regular training on BM waste handling. Audit, however, observed that no such training was provided in any of the test-checked DHs during 2014-19 except in DH, Pasighat.

5.4 Linen and Laundry services

A proper service of linen and laundry is a recognised support service which not only ensures prevention and containment of hospital infection but also contributes to value addition to the image of the hospital in the eyes of public. Clean linen instils psychological confidence in the patients and the public and enhances their faith in the services rendered by the hospital. Simultaneously, an efficient linen and laundry service is of advantage for hospital marketing and speaks of ability of the medical care services.

Audit observed that there were no written manual policies for collection, washing, calendaring, storage, distribution, etc.

5.4.1 Availability of linen

IPHS prescribes the number of different types of linen that are required for patient care services for hospitals. In five test-checked DHs, Audit observed shortage of different types

of linen such as bedspreads, hospital worker OT coats, paediatric mattress, table cloths, etc. The availability (in percentage) of different linen in each of the test-checked hospitals (as on the date of JPV) was as follows.

Table 5.4: Availability of linen in test-checked DHs

Sl. No.	Linen	Availability (in percentage)				
		Seppa	Tezu	Daporijo	Pasighat	TRIHMS
1	Bedsheets	25	21	8	62	108
2	Bedspreads	0	0	5	0	0
3	Blankets Red and blue	80	120	264	524	350
4	Draw sheet	20	50	18	0	100
5	Doctor's overcoat	17	0	8	0	139
6	Hospital worker OT coat	0	0	3	24	38
7	Patients house coat (for female)	0	0	1	10	28
8	Patients Pajama (for male) Shirt	0	0	1	6	50
9	Over shoes pairs	10	0	16	45	100
10	Pillows	13	28	4	64	133
11	Pillows covers	8	30	4	21	111
12	Mattress (foam) Adult	30	51	30	66	117
13	Paediatrics Mattress	0	0	15	0	75
14	Abdominal sheets for OT	7	33	13	53	150
15	Perineal sheets for OT	0	0	13	0	225
16	Leggings	0	0	15	0	0
17	Curtain cloth windows and doors	100	0	34	0	100
18	Uniform/Apron	0	0	0	109	0
19	Mortuary sheet	0	0	0	0	83
20	Mats (Nylon)	10	0	0	0	0
21	Mackintosh sheet (in meters)	25	0	8	100	150
	Overall availability (%)	**13**	**12**	**9**	**39**	**78**

Thus, it can be seen that apart from blankets, there were serious shortages in availability of basic linen like bed sheets, patient clothes, doctors' overcoats, mattresses and pillow cover etc., in four test checked DHs.

Non-availability of linen items as shown in the Table-5.4 above indicated that sufficient linen items were not procured and made available to patients in the test checked DHs.

5.4.2 Deficiencies in laundry services

IPHS prescribes that in order to prevent infection among patients and hospital staff, a hospital should provide clean and hygienic linen to patients. Audit scrutiny of laundry services in the test-checked hospitals revealed the deficiencies as detailed in table 5.5 below:

Table-5.5: Deficiencies in laundry services

Particulars	Name of hospitals				
	Seppa	**Tezu**	**Daporijo**	**Pasighat**	**TRIHMS**
Bed sheets changed on daily basis	No	No	No	No	No
Daily collection of soiled linen done	No	No	No	No	No
Daily delivery of cleaned linen done	No	No	No	No	No
Registers of maintenance of linen available	No	Yes	Yes	Yes	Yes
Records of quantity of linen received from laundry available	Yes	Yes	Yes	Yes	Yes

It can be seen from Table-5.5 above, that bed sheets were not changed on a daily basis and daily collection of soiled linen was not done during the period covered in audit in all the test checked DHs. Further, during physical inspection of the DHS, audit observed that no bed sheets were provided to the patient at DH Seppa, DH Daporijo and TRIHMS and patients were found using their own bed sheets as depicted in the pictures given below:



Figure: Patients without bed sheet at DH Daporijo, Tezu and TRIHMS Naharlagun

5.4.3 Washing of linen

As per the IPHS norms, laundry facility should be available in the hospitals to provide well washed and infection free linen to patients. Audit observed the following deficiencies in the test-checked DHs:

- None of the test checked hospitals sterilised the linens for wards other that OT.
- None of the test checked hospitals had established procedure for sluicing of soiled, infected and fouled linen.
- In the absence of proper washing room/space, linens were washed in toilets in DHs at Seppa and Daporijo and at common dhobighat in Pasighat as depicted in the pictures below:



Figure: Linen were washed in toilets at Seppa and Tezu and at common dhobighat in Pasighat

- Almirahs and racks were not available in the laundry to keep the washed linen in two hospitals at Daporijo and TRIHMS and were stored in dilapidated and dusty rooms as shown in the picture below:


Figure: Linen stored in DHs at Daporijo and TRIHMS for want of almirah and racks

5.5 Ambulance Service

IPHS stipulated that General ambulance services viz., '102 National Ambulance Service (NAS)' for catering to pregnant women, sick infants and sterilisation cases and '108 Emergency Transport System' for all other medical emergencies should be provided in all districts of the State in adequate number so that these could be accessed by the hospitals/patients quickly. These ambulances should be equipped with patients' bed, first-aid kit, essential medical equipment, fitted with GPS and linked with one toll free number like 102/108 as required under National Ambulance Service (NAS) so that patients may contact in their hour of need. Further, under the JSSK scheme, pregnant women are entitled to free transport referral facility to and fro from home to the facility and to higher facility in case they are referred further.

Audit noticed that there was no dedicated Ambulance Services either for pregnant women (102) or for other medical emergency (108) in test-checked DHs and both category of patients were served by the available ambulances.

The actual position of availability of ambulances in test-checked DH and status of provision of basic life support equipment/ communication system is shown in the table below:

Table-5.6: Ambulance service of the test-checked DHs

Name of DH	Requirement as per IPHS norms	Ambulance available	Shortfall	Availability of basic life support equipment	Availability of communication system
Seppa	3	3	-	No	No
Tezu	3	4	(-) 1	No	No
Daporijo	3	2	1	No	No
Pasighat	3	3	-	No	No
TRIHMS	3	8	(-) 5	No	No

It can be seen from the above table that ambulances, as required, were available in all test checked district except Daporijo. In the absence of sufficient ambulances, pregnant women were issued fuel coupons in lieu of free transport under JSSK at DH Daporijo. Further,

basic life support equipment and communication system or GPS were not available in any ambulance nor were they linked with any toll-free number. Audit noticed that ambulance at DH Seppa was not equipped with patient bed though the ambulance was earmarked as first Ride (Pahali Sawari) for transport of pregnant women as shown in the picture below:

Figure: First Ride-Ambulance at DH Seppa without patient bed and other amenities

Conclusion

The prevailing system of storage of drugs in the test-checked hospitals was not conducive for orderly storage and as per norms/ parameters making the drugs susceptible to damage, contamination and theft. Expired drugs were not segregated. The hospital administration had neither put in place any system for orderly storage of drugs nor monitored the storage and issue of drugs periodically.

Audit noticed absence of institutionalised mechanism for Infection Control in the DHs. SOPs for infection control were not available in any test-checked DHs. There was no record of regular rodent/pest control measures in the DHs. Further, training of healthcare workers in patient safety, infection control and bio-medical waste management was neither conducted nor their periodic check-up and immunisation was carried out in any DHs except Pasighat. BMW plants were lying non-functional and defunct in all five DHs except Pasighat resulting in loss of investment also in these facilities.

Audit observed shortage of linen in all test checked DHs ranging from 22 *per cent* (TRIHMS) to 91 (Daporijo) coupled with deficient cleaning/laundry services and inadequate space for storage for linen.

Recommendations

i. *The infection control mechanism may be embedded in hospitals through proper monitoring by HICC, pest and rodent control, by adopting all methods of sterilisation prescribed, microbiological survey, proper immunisation and medical check-up of staff and training.*

ii. *The BMW Rules may be adhered and followed rigorously to provide an infection free environment in the hospitals.*

Chapter - 6: Maternal and Child Care, Cancer and HIV/AIDS

Adequacy of healthcare services relating to maternal and infant care, cancer, and HIV/AIDS

6.1 Maternal and Child health

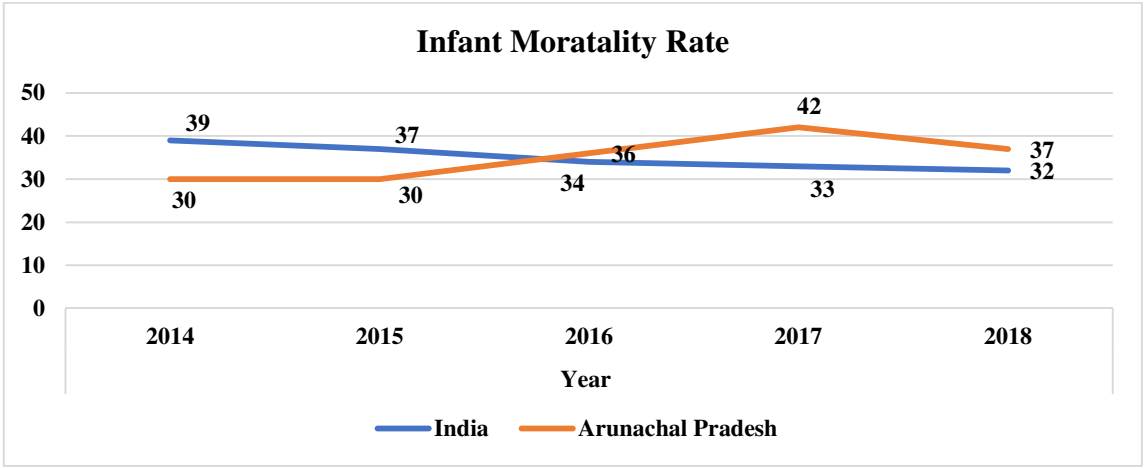
Maternal health refers to the health of women during pregnancy, childbirth and the postpartum period, whereas prenatal health refers to health from 22 completed weeks of gestation until 7 completed days after birth. New born health is the babies' first month of life. A healthy start during the prenatal period influences infancy, childhood and adulthood[11].

6.1.1 Non fixing of target to reduce MMR and IMR

Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR)[12] 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 National Health Policy puts special emphasis on reduction of MMR and IMR. As MMR figure is not available for Arunachal Pradesh due to less than one lakh live births in a year, the State Government should have at least conducted a survey to know the position of the maternal mortality in the State.

Audit however noticed that the State Government did not conduct any survey during 2014-19 to monitor the mortality of infants and women during childbirth nor were specific goals/targets for reduction of MMR and IMR fixed. Audit also observed that IMR, which is calculated for 1000 births, was not available district-wise due to low births in districts. The IMR for the entire state is shown in Chart 6.1 below:

Chart 6.1: Comparison of Infant Mortality Rate with National Average



Source: SRS Bulletin of respective years (Registrar General, India)

[11] According to World Health Organisation (WHO)

[12] 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

The IMR in the State drastically increased from 30 (2014) to 42 (2017) and came down to 37 in 2018. It remained below the national figures in 2014 and 2015 and bypassed the national IMR from 2016 onwards. Like the birth and death rates, the IMR is more pronounced in rural areas. The increase in IMR inter alia, is reflective of deficient maternal and child care health activities, as brought out in the succeeding paragraphs.

Audit observed that low birth weight and lack of healthcare, both before and during birth, were the leading reasons for increase in IMR, as brought out in the paragraphs below.

6.1.2 Availability of maternity and infant care

Antenatal care (ANC), Intra-partum care or delivery care (IPC) and Postnatal care (PNC) are the major components of facility-based maternity services. 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. Under IPC, interventions for safe delivery in labour room and operation theatre are performed. PNC includes medical care of the mother and new-born after delivery of the child especially 48 hours post-delivery which are considered critical. Under Infant care, immunisation of all children from zero to one-year age group is ensured for preventing infant and child diseases. Audit noticed serious deficiencies in maternity and infant care services in DHs, as discussed in the succeeding paragraphs.

6.1.3 ANC of pregnant women

In order to enhance safe motherhood, pregnant women are to be registered in the health centres within 12 weeks of pregnancy. Registered women have to be provided four antenatal check-ups, 100 days Iron Folic Acid (IFA) tablets, two doses of Tetanus Toxoid (TT), correct diet and vitamin supplements. The status of Antenatal Care service delivery in the five test-checked DHs during 2014-19 is shown in Table below:

Table 6.1 : ANC check-up of pregnant women

Year	No. of women registered							
	Received check-ups					Given Tetanus Toxoid (TT) Immunisation		Given IFA tablets
	At the stage of registration	First visit (12 weeks)	Second visit (20-24 weeks)	Third visit (28-32 weeks)	Fourth visit (34-36 weeks)	First round	Second round	
2014-15	5200	4343	1844	936	840	2686	1937	361
2015-16	5705	4436	1791	811	1025	3286	2308	24
2016-17	5834	4548	1591	1073	1226	3160	2380	25
2017-18	5113	3930	1629	914	1019	3060	2414	24
2018-19	6386	4826	1609	1124	1115	3785	2617	509
Total	28238	**22083**	**8464**	**4858**	**5225**	**15977**	**11656**	943
	Percent	***78***	***30***	***17***	***19***	***57***	***41***	*3*

From Table- above it can be seen that:

- Out of 28238 pregnant women registered during 2014-19, only 78 *per cent*, 30 *per cent*, 17 *per cent* and 19 *per cent* pregnant women visited health facilities for first, second, third and fourth ANC check-ups respectively. The shortfall in attendance of the registered pregnant women during first to fourth visit was indicative of poor/unsatisfactory service.
- Similarly, the shortfall in immunisation of first dosage of TT was 57 *per cent* and for second dosage the short fall is even higher at 41 *per cent* of the total registered pregnant women.

Thus, the antenatal care provided to pregnant women in the sampled hospitals was not encouraging. This indicated weakness in the tracking of expectant mothers and dissemination of appropriate information for antenatal care.

6.1.4 Non providing of IFA tablets

World Health Organisation (WHO) recommends Iron Folic Acid tablets to pregnant women to prevent maternal anaemia, puerperal sepsis, low birth weight and pre term birth. As can be seen from Table 6.1, only 3 *per cent* of pregnant women were provided IFA tablet, indicating that the iron supplement which was essential during pregnancy was not provided to majority of pregnant women. The reason for not providing of IFA tablets to pregnant women was inordinate delay in procurement of drug.

During Exit Conference, the Secretary Health and Family Welfare expressed apprehension on the less number of ANC check-ups and non-providing of Iron Folic Acid to pregnant women and stated that correct figures will be provided within a week. However, till the finalization of this report, no specific reply was furnished to substantiate the claim.

6.1.5 Management of RTI/STI

Management of complication of pregnancy such as Reproductive Tract Infection (RTI)/Sexually Transmitted Infection (STI) is essential part of ANC care. It was noticed that 10,813 pregnant women were screened for RTI/STI in five test-checked DHs and 194 were diagnosed positive and were reported to be provided required treatment. Audit, however, observed that prescribed drugs were not available in any of the test-checked hospitals during 2014-19. Absence of essential drugs for the management of RTI/STI in the hospitals was indicative of poor management of RTI cases, potentially having a serious impact over the pregnancy outcomes leading to miscarriage, stillbirths and neonatal deaths. This is evidenced by increased IMR during the period covered by audit (Refer to Para 6.1.1).

6.1.6 Comprehensive Abortion Care

Unsafe abortions due to pregnancy complications contribute to maternal morbidity and mortality. MNH Toolkit prescribes Comprehensive Abortion Care (CAC) services at each hospital with deployment of MTP-trained medical officer and availability of essential drugs. Audit observed that out of the test-checked five DHs, CAC facility was not available in DH Seppa for want of medical officers having expertise in providing CAC. In

the remaining four DHs where CAC facility was available, the full range of 15 essential drugs was not available with shortages ranging from 47 to 73 *per cent*. It was further noticed that, 2138 abortions were done without full availability of essential drugs, implying that either the quality of CAC services was compromised or the patients were compelled to buy the required drugs from outside.

6.1.7 Intra-partum care

Intra-partum Care (IPC) includes care of pregnant woman during intra-partum period (the time period spanning childbirth from the onset of labour). Proper care during labour saves not only mothers and their new-born babies, but also prevents stillbirths, neonatal deaths and other complications. Specific audit observations on IPC are discussed in the succeeding paragraphs:

6.1.8 Preparation of partographs

A partograph enables the birth attendant to identify and manage the complication of labour promptly or to take a decision to refer the patient to a higher medical facility, if required for further management. Overall quality of care as provided by the health centres during labour is also monitored through the partograph. Position of plotting of partographs in test-checked DHs is detailed in **Table 6.2** below:

Table 6.2: Details of partographs in test checked hospitals

Year	No. of delivery	No. of partographs drawn
2014-15	4943	Not plotted
2015-16	5586	Not plotted
2016-17	5843	Not plotted
2017-18	6255	2680
2018-19	6981	3136
Total	**29608**	**5816**

As can be seen from **Table-6.2** above, against 29,608 deliveries, 5,816 partographs (20 *per cent*) only were plotted in five sampled DHs during 2014-2019. Audit scrutiny further revealed that DH Seppa, DH Daporijo and DH Pasighat did not plot any partographs during 2014-19, whereas Tezu and TRIHMS did not plot partographs during 2014-17. Low percentage of partographs compromised the ability of the DHs to measure and seek improvement in the quality of service in the labour room so as to reduce the chances of adverse pregnancy outcomes.

6.1.9 Management of preterm labour

As per NHM Guidelines, babies born before completion of 34 weeks of pregnancy, termed as pre-term babies, have numerous challenges including difficulty in feeding, maintaining body temperature and increased susceptibility to infections leading to neonatal deaths. The Guidelines also state that these complications can be largely prevented by administering injection of Corticosteroids to a woman as soon as she is diagnosed with preterm labour. Audit scrutiny revealed that age of pregnancy (gestation period) at the time of delivery was not recorded in the labour room records in 97 *per cent* of the 29,608 delivery cases during the sampled period. 741 deliveries were recorded as pre-term deliveries, which

needed administration of Corticosteroid injection. The injection, however, was not administered in 196 deliveries as detailed in the **Table** below:

Table-6.3: Details of deliveries in test checked hospitals

Year	No. of delivery	No. of pre-term delivery cases	Deliveries administered Corticosteroid	Shortfall
2014-15	4943	22	0	22
2015-16	5586	23	0	23
2016-17	5843	205	161	44
2017-18	6255	230	166	64
2018-19	6981	261	218	43
Total	**29608**	**741**	**545**	**196**

The pre-term babies were thus exposed to the risk of serious post-natal complications and neonatal deaths due to non-administration of Corticosteroid to the mothers.

6.1.10 Caesarean deliveries (C-section)

MNH Toolkit designates all hospitals as the central facility for providing Caesarean (C-section) services with the provision of specialised human resources (gynaecologist/obstetrician and anaesthetist) and equipped OT to provide Emergency Obstetric Care (EmOC) to pregnant women. In this respect, Janani Shishu Suraksha Karyakram (JSSK), entitles all pregnant women to C-section services with provision for free drugs, consumables and diagnostics. Audit observed that except DH Seppa, C-section service was available in all the DHs for the entire sampled period. The service at DH Seppa was not available for want of Obstetrician and functional OT. Non-availability of service at DH Seppa compelled pregnant women to undertake six-hour arduous journey to TRIHMS to avail C-section service or opt for a facility outside the State.

6.1.11 Postnatal maternal and new-born care

Prompt postnatal care (PNC) is important for early detection and management of any post-delivery complications such as post-partum haemorrhage, which can lead to maternal death. MNH Toolkit specifies health check-ups of the mother and infant to be monitored and recorded in the PNC register. Audit observed that none of the test-checked DHs maintained the PNC register during the sampled period. Therefore, an assurance could not be derived in audit whether the prescribed post-partum health check-ups of the mother and new-born were carried out by the test-checked DH. Further, new-borns are to be administered doses of four vaccines viz. OPV, BCG, Hepatitis 'B' and Vitamin 'K' on the day of birth. Test-check of labour room records in respect of 24,423 new-borns in test-checked DHs during 2014-19 revealed significant lapses in immunisation, as detailed in Table 6.4 below:

Table 6.4: Immunisation of new born in test checked in hospitals

Year	Live birth	Administration of vaccine for			
		OPV	Hepatitis -B	BCG	Vitamin-K
2014-15	4808	3655	2991	3183	2135
2015-16	5395	3717	3247	3449	2300
2016-17	5701	3231	3041	3268	2507
2017-18	6108	5870	5552	5148	3618
2018-19	6846	4649	4418	4453	4139
Total	**28858**	**21122 (73%)**	**19249 (67%)**	**19501 (68%)**	**14699(51%)**

(OPV-Oral Polio Vaccine & BCG- Bacillus Calmette–Guérin for tuberculosis)

From Table 6.4 above, it can be seen that the administration of required vaccines in the test-checked DHs ranged from 51 to 73 *per cent*. Audit scrutiny further revealed that DH Seppa and DH Tezu did not administer vaccine to new-borns during 2014-17 and started providing vaccine only from 2017-18, DHs at Pasighat and Daporijo did not maintain any records for administration of Vitamin K. Similarly, no records were found maintained at DH Daporijo for administration of BCG.

6.1.12 Discharge of mothers from health institution within 48 hours of delivery

As per JSSK Guidelines, the first 48 hours after delivery are vital for detecting any complications and its immediate management. Care of mother and baby (including immunisation) are essential immediately after delivery and at least upto 48 hours. During this period, mother may be advised for extra calories, fluids and adequate rest which is required for well being of baby and herself. The position of institutional deliveries and number of women discharged within 48 hours in five test-checked DHs is shown in Table 6.5 below:

Table-6.5: Deliveries and patients discharged within 48 hours in test checked hospital

Year	No of delivery	No of women discharged within 48 hours	Percentage of women discharged within 48 hours
2014-15	4943	3920	79
2015-16	5586	4351	78
2016-17	5843	4322	74
2017-18	6255	4699	75
2018-19	6981	4973	71
Total	**29608**	**22265**	

It can be seen from **Table 6.5** above, as many as 22,265 (75 *per cent*) out of the 29,608 women who delivered at the DHs were discharged within 48 hours. Audit observed that the reasons for early discharge of women included inadequate and un-satisfactory infrastructural and medical facilities, request for discharge and belief of local people. Audit, however, noticed that the DHs neither provided nutritious diet to mothers nor sensitised the new mothers about the benefits of stay in hospital.

The reply of the Department was not received (August 2020).

6.1.13 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 district hospital should provide facilities of Special New-born Care Units (SNCU) with at least 12 beds and specially trained staff.

6.1.14 Availability of Labour ward, Neonatal and SNCU equipment

The IPHS prescribed 28 types of essential equipment for Labour Ward, Neonatal and Special New born Care Unit (SNCU). Of these 28, Audit sampled 9 equipments 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 6.6: Shortage/non-availability of Neonatal and SNCU equipment in the test-checked DHs

Sl. No.	Sampled equipment	Utility of the equipment	Audit findings
1	Baby Incubators	Incubators are clear boxes which help to keep the baby warm. Premature or sick babies can struggle to stay warm on their own	Seppa, Tezu and Pasighat did not have this essential equipment. TRIHMS has two against requirement of three
2	Foetal Doppler	It is a hand-held ultrasound transducer used to detect the foetal heart beat for prenatal care	Seppa, and Daporijo did not have this essential equipment. Tezu has one against requirement of two.
3	Cardiac monitor baby & adult	Cardiotocography (CTG) is a technical means of recording the foetal heartbeat and the uterine contractions during pregnancy	None of the test-checked DHs had this essential equipment except TRIHMS
4	Vacuum extractor	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 mother's labour has stalled.	TRIHMS did not have this essential equipment. Seppa has one against requirement of two.
5	Cardio Toco-Graphy Monitor	A device to monitor the heartbeat	None of the test-checked DHs except TRIHMS has this essential equipments
6	Nebulizer 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	Tezu, Daporijo and Pasighat did not have this essential equipment. TRIHMS has one against requirement of four.
7	Weighing machine infant	For measuring the weight of baby	Tezu and Daporijo has one against requirement of three.

Sl. No.	Sampled equipment	Utility of the equipment	Audit findings
8	Haemoglobinometer	A hemoglobinometer is an instrument used to determine the hemoglobin content of the blood by spectrophotometric measurement.	Seppa and Daporijo did not have this essential equipment. Tezu and Pasighat have one against requirement of two.
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)	Seppa did not have this essential equipment.

As it can be seen from the table that none of the test checked hospitals had all the essential equipment which are vital to reduce Infant Mortality Rate, though funds were available.

6.1.15 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 and neonatal deaths during 2014-19, as discussed below:

6.1.15.1 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 sign of life, such as beating of the heart or a cry or movement of the limbs. 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 five test-checked DHs during 2014-19 was between 1.83 and 2.88 *per cent* as given in Table 6.7 below:

Table 6.7: Hospital wise Still births during 2014-19

Hospital	No. of deliveries during 2014-19	No of live birth(%)	Still birth(%)
Seppa	2899	2846 (98.17)	53 (1.83)
Tezu	3282	3216 (97.99)	66 (2.01)
Daporijo	3865	3784 (97.90)	81 (2.10)
Pasighat	6104	5941 (97.33)	163 (2.67)
TRIHMS	13458	13071 (97.12)	387 (2.88)

As can be seen from the table above that out of five test checked hospitals, the still birth rate of two DHs namely Pasighat and TRIHMS was higher than the national average of 2.2 *per cent* with still birth rate of 2.67 *per cent* and 2.88 *per cent* respectively. The high still birth rate indicates ineffective antenatal care and delivery process in the test checked hospitals.

6.1.16 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 four[13] selected DHs. It was observed that the data reported to the Ministry in respect of the three selected parameters during the sampled years were higher than the actual data recorded in the respective DHs. The details are given in the following table 6.8:

Table 6.8: Comparison of HMIS data with records of test checked DHs

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	5362	4603	3142	2693	2402	2144
2018-19	7359	5905	3752	3385	2665	2283
Total	**12721**	**10508**	**6894**	**6078**	**5067**	**4427**
Difference	**2213**		**816**		**640**	
Percentage	***17%***		***12%***		***13%***	

Source: Records of selected hospitals and HMIS data

As can be seen from the Table above, the HMIS data for PW registered for ANC was inflated by 17 *per cent* and the number of pregnant women administered with TT1 and TT2 was inflated by twelve *per cent* and thirteen *per cent* respectively. These discrepancies in the HMIS data submitted to the GoI with reference to actual data needed to be corrected.

The reply of the Department was not received (August 2020)

Conclusion

Though MMR is not available for the State due to low population, the State Government neither conducted any survey during 2014-19 to monitor the mortality of infants and women during childbirth nor did it fix specific goals/targets for reduction of MMR and IMR. The ANC coverage could improve further from 70, 83 and 81 *per cent* visits of pregnant women for 2nd, 3rd and 4thANC Check-ups respectively. Only 57 and 41 *per cent* pregnant women visited DHs for 1st and 2nd round of TT immunisation respectively and this pointed out for definite scope for increasing the awareness in the interest of a healthy MMR/IMR.

Further, only three *per cent* women were given Iron Folic Acid tablets. Prescribed medicines were not available for management of RTI/STI in any of the test-checked hospitals during 2014-19. Audit observed that out of the test-checked five DHs, Comprehensive Abortion Care (CAC) and C-Section delivery facilities were not available in DH Seppa for want of medical officers. Mothers were discharged within 48 hours of delivery exposing both mother and child to risks. As many as 196 pre-term babies were exposed to the risk of serious post-natal complications and neonatal deaths due to non-

[13] Tezu, Daporijo, Pasighat and TRIHMS

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

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 equipmenst such as incubators, foetal Doppler and vacuum extractors required for child deliveries and care of new born babies.

Recommendations

i. *The State Government may conduct survey to monitor MMR and IMR and fix targets to reduce them. This can be achieved to a great extent by providing adequate and timely ANC and PNC to all pregnant women by putting in place appropriate mechanism to track all pregnant women.*

ii. *Ensure availability of facilities of C-section delivery and Comprehensive Abortion Care at Seppa District Hospital.*

iii. *The State Government may ensure immunisation of all new born babies.*

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

6.2 Cancer

Cancer is one of the leading causes of deaths and is therefore a major public health challenge. Survival rates for cancers are good, provided they are detected and treated in the early stages. For example, the five-year survival rates for early stage cancers are 60.2%, 76.3% and 73.2% for oral, breast and cervical cancers respectively. The prognosis for advanced stage on the other hand is poor, with five-year survival rates being 3.3%, 14.9%, and 7.9% for these cancers. According to GLOBOCAN[14] 2012, India accounts for 7.2% of global cancer incidence, but in terms of mortality, India accounts for 8.3% of global mortality. This highlights the fact that cancers in India tend to be detected late, leaving little opportunity for effective management and patient survival. In Arunachal Pradesh, as per the report of National Centre for Disease Informatics and Research on Cancer Burden in North Eastern States of India (2017), cancer of stomach, liver and Oesophagus contributes 52.2 *per cent* of all cancers in men. Amongst women, stomach, cervix and breast cancer contributes 37.5 *per cent* of all cancer cases. Cancer incidence rate is highest in Papumpare district in females and second highest in males among Indian registries.

6.2.1 Intervention for management of cancer

Government of India under the National Health Mission launched National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS), the population-based Screening programme for prevention, screening and control of non- communicable diseases. Under the programme, the first level screening

[14] GLOBOCAN a project of the International Agency for Research on Cancer (IARC) provides estimates by cancer sites and sex using the best available data in each country and several methods of estimation.

is to be undertaken by the ANMs/Midwife level care providers at the Sub Centre and by staff nurses at the PHCs. The aim is to ensure that screening for all cancers is provided as close to the home as possible by competently trained personnel in well-equipped facilities. Further, the guidelines provide that ANMs would be trained in visual examination of the oral cavity and clinical breast examination. They would also be trained in visual inspection using Acetic Acid (VIA) for Cancer screening. In those PHCs where screening will be conducted, Medical Officers (MOs) and staff nurses would also be trained to identify early signs/symptoms of disease. All such case will be referred to CHC/DHs for further screening and diagnosis.

IPHS norms provide that the District Hospital Laboratory shall also serve the purpose of public health laboratory and should be able to perform all tests required to diagnose epidemics or important diseases including cancer. Further, DHs are to be equipped with necessary histopathological test to confirm cancer cases. The suspected cases / diagnosed cases may be referred to concerned Tertiary Cancer Care Centre (TCCC) for further management. Efforts should be made that subsequent treatment and follow up of cases should be undertaken at district hospital itself for minimum discomfort to patients. The support for chemotherapy drugs should be provided. Availability of required human resource at district hospital for cancer care (Gynaecologist, Physician, General surgeon/ENT Surgeon and two nurses), are supposed to be placed in district hospital.

Audit verified the compliance vis-à-vis the efficacy of the institutional arrangements prescribed by these standards in the DHs and the observations are discussed in the succeeding paragraphs.

6.2.2 Initial diagnosis facility at District Hospital

NPCDCS guidelines stipulate that adequate training has to be provided to ANMs for screening for cancers, especially visual examination of oral cavity and clinical breast examination. Audit noticed that;

- ANMs were not imparted any training for screening of cancers in any of the test-checked DHs. Also, guidelines provide for linkage of each screening sites to facilities with diagnosis and treatment. However, no such linkages were found established.
- Though Non-Communicable Disease (NCD) clinics have been setup in DHs, the DHs had no necessary infrastructure in terms of manpower and equipment. The post of pathologist, necessary for conducting of biopsy was vacant in the sampled DHs.
- Similarly, necessary biopsy equipment and equipment needed for other investigations such as Colposcopy, PAP smear and CT SCAN which are essential for confirmation of disease were not available.

Details of patients diagnosed as positive in three out of five test-checked DHs were not available as there are no facilities for detecting the disease. The number of patients

diagnosed positive in two test checked DHs viz Pasighat and TRIMHS are shown in Table 6.9 below:

Table 6.9: Cancer diagnostic trends in the State during sampled period

Year	No. of patients diagnosed for cancer	Per cent increase (Year on year)
2014-15	369	-
2015-16	1488	303
2016-17	2307	55
2017-18	2974	29
2018-19	3484	17
Total	**10622**	

It can be seen from Table-6.9 that during 2014-2019, 10,622 patients were diagnosed with cancer in two DHs. These cases were referred to TRIHMS for further diagnosis and treatment. Audit also observed that there are limited private hospitals or clinics in the state and people therefore, are dependent on government healthcare facilities for treatment for these kinds of non-communicable diseases. In the absence of screening and diagnosis facility at DHs, patients in districts were compelled to visit outside their districts or State which consequently increases the risk and cost of healthcare.

6.2.3 Cancer Treatment Scheme

NPCDCS guidelines stipulate that identified cases should be referred to the Tertiary Cancer Care Centre (TCCC) for further management of the disease and that the TCCC was to be equipped with necessary infrastructure for such treatment. Details of cancer cases referred from DHs to the TCCC at TRIHMS during 2014-2019 were not available. Audit, however, noticed that the TCCC was equipped with basic facilities of cancer and is manned by oncologists and radiation therapist.

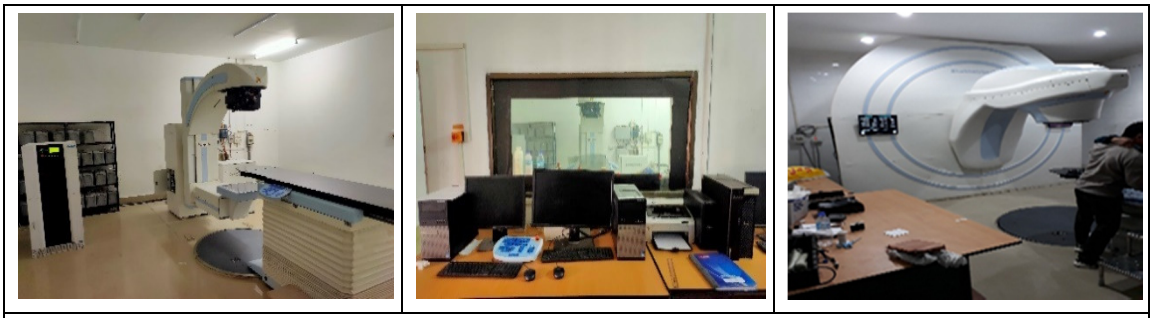


Figure: Cancer Radiotherapy machine at TRIHMS

For the treatment facility of cancer patients, the State Government launched Chief Minister Free Cancer Chemotherapy Scheme. Under the scheme, any Arunachal Pradesh Schedule Tribe (APST) cancer patient and government employee are provided free cancer chemotherapy medicine every year worth ₹ 10.00 lakh per patient. Since the inception of the scheme in August 2017, 1463 beneficiaries were provided assistance under the scheme. However, since the expertise at the TCCC was limited, the patients covered under the scheme were referred to reputed institutes in the country for prescription of the dosage of the medicine and cycle of administering the therapy, based on such prescription the patients are provided with necessary treatment at TCCC.

Follow-up after completion of treatment

6.2.4 Palliative care

The aim of palliative care is to prevent and relieve suffering during all phases of serious health problems, including pain and suffering as a result of treatment, in both survivors and people who eventually die from cancer. Palliative care includes end-of-life care and should continue even when treatment is no longer beneficial or possible. NPCDCS guidelines stipulate that the patients after treatment should be referred to DHs for follow-up care and palliative treatment. Audit however, noticed that DHs were not providing follow-up care and palliative treatment as required and patient had to therefore visit TCCC for this purpose.

6.2.5 Strengthening health literacy through awareness campaigns

As per NPCDCS guidelines, in order to create awareness among the population on health determinants, lifestyle changes, risk factors for cancers, treatment options, levels of care, costs of care, support group networks etc., appropriate strategy and plan for Information, Education and Communication (IEC) and Behaviour Change Communication (BCC) strategies should be formulated by the State Government. Various channels of communication such as Radio, Television and Print media should be used to sensitise public about the risk factors, promotion of healthy life style and services made available under the programme. Locally prevalent folk media may also be used to reach the targeted population, particularly in rural and urban deprived population and involve private sector, NGOs, dedicated grass roots level persons in its awareness campaigns. Key messages that need to be conveyed to the public include increased intake of healthy foods, increased physical activity through sports, exercise, avoidance of tobacco and alcohol; stress management warning signs of cancer etc.

Audit, however noticed that the State Government did not formulate any strategy and plan for Information, Education and Communication (IEC) and Behaviour Change Communication (BCC) to create awareness in the state. It also did not involve private sector, NGOs, dedicated grass roots level persons for creating awareness.

Accepting audit findings on non-availability of diagnosis and palliative care in the district hospital, the Secretary Health and Family Welfare during Exit Conference stated that District Hospitals should have facility for detection of cancer and they should also administer subsequent dose/therapy to the patients.

Conclusion

The number of cancer incidences in the State had increased from 369 in 2014-15 to 3484 in 2018-19. Cancer incidence rate is highest in Papumpare district in females and second highest in males in India. Cancer of stomach, liver and Oesophagus were common in men (52.2 *per cent*) whereas amongst women, stomach, cervix and breast cancer contributes 37.5 *per cent* of all cancer cases.

Despite growth of disease at alarming rate over the years, the department failed to ensure availability of diagnostic facilities at DHs as out of five DHs, screening facility was

available in only two DHs namely, Pasighat and TRIHMS. Palliative care was also not available in DHs and therefore patient had to visit lone Tertiary Cancer Care Centre (TCCC) at Naharlagun incurring extra expenditure on journey and incidentals. The department also failed to formulate any strategy and plan for Information, Education and Communication (IEC) and Behaviour Change Communication (BCC) to create awareness in the State against the disease and for timely diagnosis.

Recommendations

i. *Screening facilities for early detection and treatment of cancer may be provided adequately and early in all the DHs.*

ii. *The State Government may formulate strategy and plan for Information, Education and Communication (IEC) and Behaviour Change Communication (BCC) to create awareness in the state against the disease*

6.3 Management of HIV

Acquired Immune Deficiency Syndrome (AIDS) is a serious condition that weakens the body's immune system, leaving it unable to fight-off illness. National AIDS Control Organisation (NACO) is the body responsible for formulating policy and implementing programmes for the prevention and control of the HIV epidemic in India. HIV/AIDS control programme of NACO in the state, are implemented through the Arunachal Pradesh State AIDS Control Society (APSACS). The prevalence of HIV cases in the state as per APSACS is mostly due to hetero-sexual mode of transmission. Position of people screened and diagnosed as positive in test-checked DHs as well as the State is detailed in Table 6.10 below:

Table-6.10: Year wise HIV patients in the state during sampled period

Year	No. of patients screened		No. of patients diagnosed with HIV	
	State	Sampled DHs	State	Sampled DHs
2014-15	35994	5324	32	13
2015-16	8883	5741	11	11
2016-17	41041	6311	31	7
2017-18	34425	6008	32	13
2018-19	39208	6885	37	24
Total	**184060**	**30269**	**186**	**68**

As can be seen from Table 6.11 above, out of the total 1,84,060 people screened in the State, 186 were found positive for HIV/AIDS and the rate is on an upward trend since 2016-17.

In order to prevent and tackling the incidence of HIV/AIDS in the State, APSACS as per the approach formulated by NACO has set up a series of institutions viz. Integrated Counselling and Testing Centres (ICTC), Antiretroviral Therapy Plus Centres (ART),

Link ART Centres, CD 4 Lab and initiated target interventions as detailed in Table 6.11 below:

Table 6.11: Details of HIV diagnostic facility in the state

Sl. No.	Description	Number
1	Integrated Counselling and Testing centres (ICTC)	39
2	Prevention of Parents to Children Transmission Centre (PPTCTC)	8
3	Antiretroviral Therapy Plus centres (ART)	1
4	Link ART centres	4
5	CD4 test Labs	1
6	Targeted interventions (TI)	20

6.3.1 Facility at District Hospital

HIV counselling and testing service is a key entry point for prevention of HIV infection and for treatment and care of people who are infected with HIV. It is essential that when availing counselling and testing service, people are able to access accurate information about HIV prevention and care and undergo HIV test in a supportive and confidential environment. People who are found HIV negative should be supported with information and counselling to reduce risks and remain HIV negative while people who are found HIV positive should be provided psycho- social support and linked to treatment and care facility. Audit noticed that Integrated Counselling and Treatment Centre (ICTC) have been set up in all test-checked DHS and are equipped with counselling and screening facility. After diagnosis, patients are referred to ART centre for further diagnosis and treatment. In DH Seppa, Opioid Substitution Therapy (OST) Programme for Injecting Drug Users (IDUs) was found to be implemented.

6.3.2 Care Support & Treatment:

As per the approach formulated by NACO, one ART Centre and four Link ART centre[15] (LAC) have been established in the State for treatment of HIV positive people. These centres provide essential services such as CD4 counts and psycho-social support. In the ART centre, HIV positive people are registered and provided free medicines. Further, four LACs have been setup for the facility of patients so that they need not visit ART at TRIHMS for collection of medicines. As per APASAC, there are total 1161 people living with HIV (PLHIV) registered with ART in the state, out of which 165 died and 236 left ART therapy (LFU).

6.3.3 Information, Education and Communication & Behaviour Change Communication

NACO guidelines stipulate that communication is the key for generating awareness on prevention as well as motivating access to treatment, care and support. Communication also means working with individuals, communities and societies to promote positive behaviour that are appropriate to reduce risk behaviours and vulnerability to HIV. Details

[15] ART Centre at TRIHMS and four link ART centre at Bomdila DH West Kameng, Aalo DH West Siang, Tezu DH Lohit and Changlang DH Changlang

of total budgetary outlay, allocation on Information, Education and Communication (IEC) & Behaviour Change Communication (BCC) in the state is shown in the Table 6.12 below:

Table 6.12: IEC/BCC fund

(₹ in Crore)

Year	Total Allocation on HIV management	Allocation for IEC/BCC	Expenditure on IEC/BCC	Allocation in *per cent*	Utilisation in *per cent*
2014-15	11.88	2.55	1.56	21	61
2015-16	9.43	2.04	0.94	22	46
2016-17	7.62	0.90	0.95	12	105
2017-18	8.38	0.86	0.85	10	99
2018-19	8.55	1.11	1.26	13	113
Total	**45.86**	**7.47**	**5.56**	**16**	**74**

Source: Departmental records

It can be seen from Table-6.12 that out of the total budget outlay of ₹ 45.86 crore, ₹ 7.47 crore (16 *per cent*) was allocated for IEC/BCC activities and the allocation of fund kept on decreasing over the years except 2018-19. The utilisation of fund during 2014-19 ranged from 46 *per cent* to 113 *per cent* with overall utilisation of 74 *per cent*.

Audit observed that APSACS conducted IEC/BCC activities like creating HIV/AIDs awareness during various events like local festivals, sports meets, Statehood day celebration, Youth day, World Aids Day etc., advocacy and sensitisation meeting with various institutions like Colleges, Police force, NCC, PRI and Government departments. APSACS also engaged local newspapers, FM radio, All India Radio and DDK for spreading awareness about the disease.

Audit also noticed that though Project Director, APSACS, had incurred an expenditure of ₹ 4.29 crore during 2014-15 to 2017-18 on these IEC activities, adequate documentation of having incurred expenditure of ₹ 1.60 crore (37 *per cent*) was not found. The absence of supporting documents cast doubt over the implementation of IEC activities.

The reply of the Department was not received (August 2020).

Conclusion

The number of people diagnosed as HIV positive in the State has shown an upward trend after 2016-17. The Department had set up Integrated Counselling and Treatment Centre (ICTC) Antiretroviral Therapy Plus Centres (ART), Link ART Centres, CD 4 Lab in the State for diagnosis and focussed intervention of such patients and all the test checked DHs have set up ICTC. The funds for IEC/BCC activities under the programme kept on decreasing over the years, except 2018-19 and its utilisation during the period remained lower than the allocation.

Recommendations

i. *The State Aids Society may ensure optimum utilisation of the earmarked allocation on IEC activities since communication is the key for generating awareness on prevention as well as motivating access to treatment, care and support for HIV patients.*

ii. *The Society may maintain documentary evidence for the full expenditure incurred on IEC activities.*

Chapter-7: Evaluation of in-patient services through Outcome indicators

The IPD services provided during 2014-19 in the five test-checked DHs were evaluated through certain Outcome Indicators (OIs), *viz*., Bed Occupancy Rate (BOR), Average Length of Stay (ALOS), Leave Against Medical Advice (LAMA) Rate, Absconding Rate, Bed Turnover Rate (BTR) and Referral Out Rate (ROR). The categorisation and methodology of evaluating these OIs are given table below:

Table 7.1: Calculation of quality indicators

Type	Quality Indicator	Numerator	Denominator
Productivity of hospital	BOR (in *per cent*)	Total patient bed days X 100	Total no. of functional beds X No. of days in a month
Clinical care capability of hospital	ALOS (in days)	Total patient bed days	Discharges in the year (including death, LAMA, referred)
Service quality of hospital	LAMA (Rate/l000)	Total no. of LAMA X 1000	Total no. of admission
	Absconding (Rate/1000)	Total no. of Absconding cases X 1000	Total no. of admission
Efficiency	BTR	Total discharge including death	Total no. of functional beds
	ROR (in *per cent*)	Total number of cases referred to higher centres	Total no. of admission

Source: IPHS norm

7.1 Evaluating productivity of the hospital

7.1.1 Bed Occupancy Rate

The Bed Occupancy Rate is the average occupancy of hospital beds within a given year. It is an indicator of the productivity of the hospital services and is a measure of verifying whether the available infrastructure and processes are adequate for delivery of health services. As per IPHS, the BOR of hospitals should be at least 80 *per cent*. The BOR of the test-check DHs during 2014-19 are given below:

Table 7.2: BOR of the test-checked DHs

Sl. No	Name of the Hospital	BOR (%)
1	Seppa	20
2	Tezu	20
3	Daporijo	14
4	Pasighat	33
5	TRIHMS	79

(Source: Records of the DHs) *Benchmark: 80*

Thus, the BOR of only TRIHMS with 79 *per cent* was equivalent to the IPHS benchmark (80 *per cent*). The low BOR of the four test-checked DHs indicates that the utilisation of beds at these hospitals was low. The deficiencies in services and non-availability of

comprehensive services in test checked DHs as mentioned in this Report, gets reflected in the low BOR in these four DHs.

The reply of the Department was not received (August 2020).

7.2 Evaluating efficiency of the Hospitals

7.2.1 Bed Turnover Rate

Bed Turnover Rate (BTR) is the number of times each hospital bed changes occupants in an in-patient department in a given period of time and is a measure of the utilization of the available bed capacity and serves as an indicator of the efficiency of the hospital. The BTR of the test-checked DHs during 2014-19 was as shown in table below:

Table 7.3: BTR of the test checked hospitals

Sl. No	Name of the Hospital	Average BTR during 2014-19
1	Seppa	44
2	Tezu	24
3	Daporijo	15
4	Pasighat	64
5	TRIHMS	47

(Source: Records of the DH) *weighted average: 43 times*

Thus, efficiency of the hospital as indicated by BTR was found on the lower side in Tezu and Daporijo in comparison with the weighted average of the five test-checked DHs (43 times). High BTR indicates high utilisation of the inpatient beds in a department while low BTR could be due to fewer patient admissions or longer duration of stay in the departments.

7.2.2 Referral Out Rate

As per IPHS norms, referral services to higher centres denote that the facilities for treatments were not available in the hospitals. Audit observed that in the test-checked hospitals the Referral Out Rate (ROR) was as follows:

Table 7.4: Referral out rate of the test checked hospitals

Sl. No	Name of the Hospital	ROR (of 1000)
1	Seppa	185
2	Tezu	170
3	Daporijo	132
4	Pasighat	8
5	TRIHMS	16

(Source: Records of the DH) *weighted average: 54*

Thus, ROR was on higher side in DHs at Seppa (185), Tezu (170) and Daporijo (132) indicating that health care facilities were not adequate in these hospitals. This is confirmed from the audit findings in this Report.

7.3 Evaluating clinical care capability of the Hospitals

7.3.1 Average Length of Stay

Average length of stay (ALOS) is the time interval between date of admission and date of discharge/ death. ALOS is an indicator of clinical care and capability of the hospitals, a lower value of ALOS means a better quality of services, which is helpful in making more beds available to incoming patients. Besides, the longer the patients stay in the hospital, the greater the risk that they will develop a healthcare-acquired infection (HAI). The ALOS (in days) in the test-checked hospital during 2014-19 was as follows:

Table 7.5: ALOS of the test-checked DHs

Sl. No	Name of the Hospital	ALOS (in days)
1	Seppa	2
2	Tezu	3
3	Daporijo	4
4	Pasighat	2
5	TRIHMS	6

(Sources: records of test-checked DHs)

The ALOS of DHs at Daporijo and TRIHMS were higher than the weighted average (3.87) days of the five test checked DHs.

7.4 Evaluating service quality of the hospitals

7.4.1 LAMA and Absconding Rate in DHs

Leaving the hospital against the physician's advice is known as Leave Against Medical Advice (LAMA) and Absconding Rate refers to patients who leave the hospital without informing the hospital authorities. Patients who leave the hospital without physician permission before completing the course of treatment may cause harm to themselves and others as it may expose the patient to risk of an inadequately treated medical problem and result in the need for readmission. LAMA/Absconding of patients is a matter of concern and challenge for the health-care providers as this has adverse medical outcomes in terms of morbidity and mortality. It reflects a failure of the consensus and understanding between the attending physician and the patient regarding the need for continued hospitalization. Since it was observed that the two terms were used interchangeably in the test-checked hospitals, a combined analysis of both LAMA & Absconding Rate in test checked hospital during period 2014-19 was as follows:

Table 7.6: LAMA and Absconding rate of the test checked hospitals

Sl. No.	Name of the Hospital	LAMA & Absconding rate (of 1000)
1	Seppa	92
2	Tezu	15
3	Daporijo	34
4	Pasighat	9
5	TRIHMS	15

(Source: Records of the DH)

As it can be seen that Leave against Medical Advice & Absconding rate was considerably high in DHs at Seppa and Daporijo which points out to the need of better counselling services to patients to get discharged on availing adequate and proper medical treatment.

7.4.2 Patient Satisfaction Score

NHM Assessor's Guidebook requires hospitals to conduct satisfaction surveys of patients on a monthly basis. The survey is an indicator of patient satisfaction and acts as an important monitoring and feedback mechanism for the hospital.

Audit observed that patient satisfaction surveys were not conducted by any sampled DHs, except Pasighat during the period 2014-19.

Therefore, four out of five DHs missed out an opportunity for identifying gaps based on feedback by patients availing health services and developing an effective action plan for quality improvement in their respective hospitals.

To gauge the satisfaction level of patients, Audit conducted a Patient Satisfaction Survey, based on a pre-defined questionnaire. Results of the Survey has been included at appropriate places.

7.5 Outcome vis-a-vis availability of resources

The relative performance of the test-checked hospitals on various outcome indicators worked out by audit and the corresponding availability of resources is shown in the table below:

Table 7.7 Outcomes *vis-à-vis* availability of resources in District Hospitals

Hospital	Productivity	Efficiency		Clinical care	Service quality	Availability of resources		
	BOR (%)	BTR (%)	ROR per 1000	ALOS in days	LAMA per 1000	Doctor (%)	Nurses (%)	Essential drugs (%)
Seppa	20	44	185	2	92	41	64	30
Tezu	20	24	170	3	15	66	91	36
Daporijo	14	15	132	4	34	69	100	-
Pasighat	33	64	8	2	9	100	84	34
TRIHMS	79	47	16	6	15	100	85	24
Benchmark	***80-100%***	***43%***	***54***	***3.8***	***22***	***100%***	***100%***	***100%***

As seen from Table above that every hospital underperformed on one or more outcome indicator. The details in this regard are as follows:

- DH Seppa, GH Tezu and DH Daporijo experienced low bed occupancy and had an alarmingly high referral out rate of 185, 170 and 132 per 1000 respectively, indicating that these hospitals struggle to provide quality services.
- LAMA rate was also high in DH, Seppa and DH Daporijo at 92 and 34 per 1000, indicating a failure of the consensus and understanding between the attending physician and patients regarding the need for continued hospitalization.

Recommendations

i. *The Government needs to adopt an integrated approach, allocate resources in ways which are consistent with patient priorities and needs to improve the monitoring and functioning of the district hospitals towards facilitating a significant change in health outcomes.*

ii. *The monitoring mechanism should be revamped by including measurement of outcome indicators pertaining to productivity, efficiency, service quality and clinical care capability of the hospitals. The high LAMA and Absconding rates in test-checked DHs may also be addressed by improving counselling services to the patients.*

Itanagar
Dated: 11 January 2021

(Chhering Angrup Bodh)
Principal Accountant General,
Arunachal Pradesh

Countersigned

New Delhi
Dated: 11 January 2021

(Girish Chandra Murmu)
Comptroller and Auditor General of India

APPENDICS

Appendix I: Availability of medicine at District Hospitals during audit inspection
(Reference paragraph no. 3.5.2)

Sl. No.	Name and nature of Drugs& Consumables	Availability of medicine at the time of inspection (Percentage)					
		Tezu	Seppa	Daporijo	Pasighat	TRIHMS	Range
1.	Analgesics/Antipyretics/Anti Inflammatory	45	18	9	27	18	9-45
2.	Antibiotics & Chemotherapeutics	25	14	14	8	11	8-25
3.	Anti-Diarrhoea	33	33	0	0	0	0-33
4.	Dressing Material/Antiseptic Ointment lotion	38	38	42	38	25	25-38
5.	Infusion fluids	57	7	43	29	21	7-57
6.	Eye and ENT	8	4	8	4	4	4-8
7.	Antihistaminic/anti-allergic	17	17	8	8	17	8-17
8.	Drugs acting on Digestive system	25	15	25	5	15	5-25
9.	Drugs related to Haemopoietic system	0	50	0	25	0	0-25
10.	Drugs acting on Cardiac vascular system	8	15	8	12	4	4-15
11.	Drugs acting on Central/peripheral Nervous System	15	20	20	13	15	13-20
12.	Drugs acting on Respiratory system	19	13	19	0	13	0-19
13.	Skin Ointment/Lotion etc.	4	9	9	17	13	4-17
14.	Drugs acting on Uro-Genital system	25	50	50	25	50	25-50
15.	Drugs used in Obstetrics and Gynaecology	14	17	11	6	14	6-17
16.	Hormonal Preparation	14	14	7	0	0	0-14
17.	Vitamins	13	13	4	8	0	4-13
18.	Other Drugs & Material &Miscellaneous items	15	14	8	12	12	8-15
19.	Vaccines Drugs and Logistics	11	78	56	11	0	0-78
	Total	**19**	**17**	**15**	12	**12**	**12-19**

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