



**Report of the
Comptroller and Auditor General of India
Performance Audit of
Select District Hospitals in Tripura
for the year ended 31 March 2019**



लोकहितार्थ सत्यनिष्ठा
Dedicated to Truth in Public Interest



GOVERNMENT OF TRIPURA

Report No. 2 of 2021

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Comptroller and Auditor General
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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 Tripura for the period 2014-19 has been prepared for submission to the Governor of Tripura under Article 151 of the Constitution of India.

District Hospitals are set up for providing a plethora of services for preventive, diagnostic and curative health care to the people in the district, at an acceptable level of quality, and be responsive and sensitive to the needs of the people. The focus of the audit is to assess the role of the State and 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 a Performance Audit of Select Public Health facilities of Tertiary care (State Hospital), secondary care (District-level Hospitals) and primary care (one CHC and one PHC), in the State of Tripura. We covered the period from 2014-15 to 2018-19. The audit examination included records maintained in the office of the Additional Chief Secretary/ Secretary, Health and Family Welfare Department, Director of Health Services (DHS), Mission Director of National Health Mission (NHM), State Project Management Unit (SPMU) of NHM, CMOs of two selected districts *i.e.* Dhalai and Unakoti, Joint Director of Health Services (SS)/ Medical Superintendents of selected State and District Hospitals (DHs) and Medical Officer of selected CHC and PHC.

What has been covered in this audit?

In this Performance Audit we have focussed on 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 State and District Hospitals and various services provided therein like Out-Patient and In-patient services, Maternity and Child Care services, Emergency Services, Drug Management, Infection Control, Bio-Medical Waste Management, Diagnostic Services, Fire control measures and select services of Cancer Care and AIDS Prevention and Treatment, based on pre-determined performance indicators/ criteria in the sampled district level and block level hospitals (CHC and PHC). We have adopted the Indian Public Health Standards (IPHS) guidelines as well as State norms as applicable for benchmarking various audit findings.

What have we found?

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

Financial Resources

The average budget allocation and expenditure on the health sector against the overall State budget during 2014-19, was *6.07 per cent* and *5.91 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 the health sector. During 2018-19, as against a budget allocation of ₹ 1,117.99 crore (*6.22 per cent* of total State budget), the actual expenditure on health was only ₹ 929.81 crore (*6.66 per cent* of total State expenditure). Further, the State's expenditure on health sector, during 2014-19 ranged from *1.70 per cent* to *2.19 per cent* of Gross State Domestic Product (GSDP), as against a stipulation that the expenditure on health be increased to *2.5 per cent* of the GSDP, by 2025.

The State spent very little on strengthening/ providing health infrastructure, capital expenditure being merely *17 per cent* of the total health expenditure incurred

during 2014-19. During the period the State spent only three *per cent* of its revenue expenditure on procurement of drugs/medicines. The Department did not utilise the allocated funds optimally with the savings ranging from ₹ 316.23 crore (33 *per cent*) in 2015-16 to ₹ 188.18 crore (17 *per cent*) in 2018-19. The unspent funds adversely impacted the quality of health care services in the State.

Paragraphs 2.1.1 & 2.1.2

The outlay on drugs & medicine, machinery and equipment was poor while the Department could not utilise 47 *per cent* of the budget on major works. This had an adverse effect in the quality of health services provided in the DHs in the State.

Paragraph 2.1.2

Funds under National Health Mission (NHM)

Out of the total available funds of ₹ 1,294.02 crore (including opening balance of ₹ 97.94 crore at the beginning of 2014-15) during 2014-19, the Mission Director, NHM utilised only ₹ 780.79 crore (60 *per cent*) and the unspent funds during 2014-19 ranged between 25 *per cent* and 53 *per cent* of the available funds. Further, no money was spent on two programmes *e.g.* National Programme for Healthcare of Elderly (NPHCE) and National Programme for Prevention and Control of Deafness (NPPCD) despite receipt of funds. The low utilisation of funds under Reproductive and Child Health (RCH) programme impacted the maternal and child health care services in the State. In Janani-Sishu Suraksha Karyakram (JSSK) programme under RCH, wherein free medicines are to be made available to pregnant women, despite availability of funds, they were compelled to buy medicines out of their own pocket from the market due to non-availability/ non-procurement of medicines in the DHs.

Paragraph 2.1.4

Recommendations

- i. *The State Government may enhance the budget provision and expenditure on healthcare services to ensure that adequate and quality healthcare infrastructure and services are provided to the people of the State; and to utilise the allocated funds on time for implementation of programmes under National Health Mission (NHM).*
- ii. *The State Mission Director, NHM may enquire the reasons for sub-optimal 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 physical infrastructure

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. The Department had shortages of 53 *per cent* of Medical Officers as per the IPHS norms. The Department was running an acute shortage of Medical Officers (33 *per cent*), Dental Surgeons (71 *per cent*) and paramedical staff (46 *per cent*) with reference to their own sanctioned strength, due to non-recruitment of sufficient number of health personnel in the last five years. Despite low spending on health, the State Government did not approve the Department's proposal to recruit 150 doctors and neither did the Health Department pursue the proposal further.

Paragraph 3.1.1

The State did not revise the sanctioned strength of the doctors despite expansion of health facilities in the State during last thirteen years. The Department did not enforce the 'bond conditions' on the UG/ PG medical students to overcome the shortages of doctors in the State, through contract appointments. The NHM could not recruit specialist doctors as per the sanction accorded by the Government of India for the DHs in the State. The Department could not make State service attractive for doctors by positive incentivising measures and even the Non-Practicing Allowance (NPA) for doctors had not been revised since 2009 and continued at a paltry sum of ₹ 1,000 to ₹ 2,000 per month.

We noticed that there was an overall shortfall of 29.41 *per cent* of nursing staff in the test-checked DHs as per IPHS norms.

Paragraphs 3.1.2, 3.1.3, 3.1.4 & 3.2.2

Though blood storage units were available in DHs, they were not planned for in the test-checked CHC in violation of IPHS norms, thereby risking the life of patients in emergency situations.

Paragraph 3.3.3

Recommendations

- i. *The State Government may ensure revision of sanctioned strength and recruitment of adequate number of Medical Officers, nursing staff, and para medical staff as per the IPHS norms in keeping with the expansion of health facilities in the State.*
- ii. *The Department may create a separate cadre for specialist doctors in the State, with attractive remuneration package and benefits of housing, etc.*
- iii. *Non-Practicing Allowance may be revised and be made more remunerative for doctors.*

Non-availability of equipment

Audit noted absence of Equipment Procurement Policy (EPP) or any standardised norms/ procedures for procurement of equipment for different health facilities. Thus, the types of equipment available in the test-checked DHs differed from one DH to another DH.

Executive Summary

There was shortage of full range of essential equipment in the test-checked DHs in comparison to the IPHS. The average percentage in terms of availability of eight sampled categories of equipment required by the two test-checked DHs, ranged from 65 *per cent* (DH, Dhalai) to 66 *per cent* (DH, Unakoti) only. Available equipment like manual X-Ray machines, ear surgery equipment were not functional in both the sample DHs.

Paragraph 3.3.4

Recommendations

- i. *The Department may ensure availability of full range of essential equipment in every hospital, particularly in view of the increasing reliance on diagnostics for treatment of patients.*
- ii. *Proper maintenance may also be ensured to reduce the number of non-functional equipment and the downtime of the equipment, for availability of full services to patients.*

Non-availability of essential drugs

During 2014-19, out of the 215 essential drugs, 62 *per cent* to 64 *per cent* of the drugs were never supplied to the test-checked DHs, while 68 *per cent* to 91 *per cent* of the drugs remained *stock out* and were not available throughout the year. 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. In the State Hospital also a similar scenario prevailed whereby only 59 (18 *per cent*) of the essential drugs out of 333 were available with the stock out rate of 80 *per cent*, thus compelling the patients to purchase the medicines from open market.

Paragraph 3.4.1

Recommendations

- i. *The State Government may put in place a comprehensive drug policy according to the need of hospitals and ensure all time availability of essential drugs in each hospital in order to avoid ‘stock outs’.*
- ii. *They may ensure that a formulary of drugs is prepared by each hospital on the basis of disease patterns and inflow of patients.*

Delivery of Healthcare Services

OPD Services

Though there was a substantial increase in the number of OPD patients in the DHs, the number of specialist doctors remained the same due to acute shortage while the number of Medical Officers in the CHC and PHC were also inadequate since the State was running with 33 *per cent* vacancy in the sanctioned post of Medical Officers. This resulted in increase in patient load per doctor in OPDs and increased waiting time for the patients.

Paragraphs 4.1.1 & 4.1.2

There was shortage of basic facilities in the OPD in the test-checked hospitals leading to inconvenience to patients and attendants.

Paragraph 4.1.2.3

Records of grievance redressal were not maintained by any of the test-checked hospitals.

Paragraph 4.1.3

Recommendations

- i. *Doctors' strength in DHs/CHCs/PHCs may be increased considering the patient load and average OPD cases per doctor.*
- ii. *Grievance redressal mechanism needs to be streamlined in such a way that it becomes easily accessible to the common people with assured action on the grievance.*

IPD Services

Full range of IPD services and facilities were not available in all the sampled medical facilities. Even the basic services related to Obstetrics & Gynaecology were not available in the sampled CHC which indicates that the State Hospital would be burdened with even routine medical cases. The primary reason for non-availability of full range of IPD services was shortage of specialist doctors, Medical Officers, nurses, paramedics in the health centres. In absence of rosters, the attendance of Medical Officers in the DHs could not be verified.

Paragraphs 4.2.2, 4.2.2.1 & 4.2.3.1

Lack of emergency OT in the sampled DHs further added to the woes of the patients. Due to absence of specialist in the DHs, there was a heavy burden on the specialists in the State Hospital who had to perform surgeries on cases routinely referred at the secondary health facilities from the districts.

Paragraphs 4.2.4 & 4.2.4.1

Lack of ICU facilities in the sampled District Hospitals further increased the emergency patient load in the State Hospital. The ICU infrastructure built at DH, Unakoti since 2014-15, at a cost of ₹ 16.39 lakh remained idle due to non-posting of manpower. Further, 14 out of 16 beds in Neo-natal and Paediatrics ICU in the State Hospital were not functional due to deficiencies in functioning of critical equipment. Equipment valuing ₹ 64.96 lakh procured for the Trauma Centre of the State Hospital were lying idle since 2018-19, due to non-operationalisation of Neuro OT. This is not only a waste of resources but also deprived appropriate care to the critical patients.

Paragraphs 4.2.6, 4.2.6.1 & 4.2.6.2

The trauma care centre in DH, Dhalai was lying idle since 2013-14, despite incurring an expenditure of ₹ 3.06 crore, due to non-posting of specialist doctor.

Executive Summary

What was also alarming was the absence of any trauma care facility along the entire stretches of the National Highway connecting Tripura to Assam.

Paragraphs 4.2.7 & 4.2.7.1

In none of the test-checked DHs/CHC, all types of prescribed radiology services were available during 2014-19.

Paragraph 4.2.9.1

In DH, Dhalai the facilities for 26 *per cent* of the essential tests prescribed under the IPHS were not available while 46 *per cent* prescribed tests were not available in DH, Unakoti. Despite engaging private service providers, pathology services were not fully available as prescribed in IPHS, depriving the public from availing evidence based health care in the DHs.

Paragraph 4.2.9.4

Recommendations

- i. *The Government may provide basic medical facilities related to Obstetrics & Gynaecology in CHCs and PHCs so that services are available locally to patients as per IPHS norms.*
- ii. *Adequate human resources, equipment and consumables be provided to all the health care facilities to carry out the essential diagnostic tests as per the IPH Standards.*
- iii. *The ICU infrastructure built at DH, Unakoti and trauma care centre in DH, Dhalai should be made functional, by the Department on priority. Trauma care services be made available in all DHs as per norms, so that patients are not put to risk and inconvenience in emergency conditions.*

Support Services

There was no drug policy of the Government of Tripura. However, Directorate of Health Services (DHS), Government of Tripura prepares Essential Drug List (EDL) for the hospitals in the State. As per EDL 2016-17, 215 drugs were prescribed for District Hospitals and 333 drugs for State Hospitals. Audit noticed that there was no systematic approach for assessment of actual requirement since the medicines and consumables prescribed were not recorded either electronically or manually by the health facilities, which is supposed to form the basis of calculation of annual requirements.

Paragraph 5.1

The Department did not prepare any Standard Operating Procedure (SOP) for drug storage and management. Drug storage was not as per norms and was deficient in terms of adequacy of storage space, proper storage and recording of temperature in storage places. There is no system for recall of expired drugs. The State Drug Testing Laboratory did not have the facility for testing of injectable drugs.

Paragraphs 5.1.2 & 5.1.3

Due to non-procurement of important hospital items the service deliveries in the selected hospitals was compromised. In-house dietary services were deficient as no test-checked hospitals provided six type of diets as per the Government guidelines and quality checking of the served diet was absent.

Paragraphs 5.1.4 & 5.2

Manual laundry system was in vogue in the test-checked DHs, CHC and PHC. No guidelines or SOP was available issued for laundry services. Test-checked DHs and State Hospital undertakes only autoclaving process for disinfection/sterilisation of the OT instruments and the consumables utilised in the OT before using them. No other sterilisation process were used by the hospitals including the State Hospital (GBPH). DHs did not sterilise linen before issuing to the patients.

Paragraphs 5.3.2, 5.4 & 5.4.3

Fire safety management in the test-checked hospitals was virtually absent and annual No Objection Certificate (NOC) from the Fire Department was not obtained by any of the test-checked hospitals. Fire alarm system and fire hydrants were not found working in the State Hospital (GBPH), DHs, Dhalai and Unakoti due to non-maintenance. Except in DH, Dhalai fire extinguishers were found non-functional in all the test-checked hospitals. Thus, there was no assurance of existence of fire safety measures in the State Hospitals.

Paragraph 5.5.2

Both the test-checked DHs of Dhalai and Unakoti were flouting the Bio-Medical Waste Management Rules with the open discarding of the hospital waste which posed a serious threat to the environment. Ambulances in the State Hospitals lacked basic life support facility *viz.* Oxygen Cylinder, First Aid Box, trained paramedics, *etc.* as required under the norms and rather these were used more as transport vehicles.

Paragraphs 5.6 & 5.7

Recommendations

- i. *The State Government may formulate a drug policy and ensure essential hospital items to all hospitals. The Department may also create facility for testing of injectable drugs in the State Drug Testing Laboratory (SDTL).*
- ii. *Hospital diet chart along with the quantity may be displayed in the In-Patient wards and quality of the served diet may be ensured using the service of approved Food Testing Laboratory and noted in the Diet Register.*
- iii. *State Government may formulate Standard Operating Procedure (SOP) for laundry services.*
- iv. *Annual No Objection Certificate from the Fire Department may be obtained for all DHs to ensure the safety of the doctors/staff and patients from fire hazard and regular mock drills for disaster management may be conducted for hospital staff.*

- v. *Bio-Medical Waste Management Rules may be followed by the hospitals in letter and spirit to provide infection free environment in DHs. Staff may be adequately trained to observe BMW Rules in DHs.*
- vi. *Hospital Ambulance services may be equipped with the basic life support facility and trained man power.*

Maternal and Child Care

During 2014-19, Infant Mortality Rate (IMR) in the State saw a fluctuating trend. The IMR in the State was lower than the All India Average but increased to 20 in 2017-18 and came down to 17 in 2018-19. The MMR which was lower than the All India average, declined to 74 in 2018-19.

Audit noticed deficiencies in giving Antenatal Care (ANC) to the women during pregnancy.

On an average only 62.6 *per cent* of pregnant women registered themselves for ANC services. The number of Pregnant Women (PW) given IFA 100/180 tablets declined from 60.1 *per cent* in 2014-15 to 56.5 *per cent* in 2018-19. Though the required facilities for pathological tests were available even in the PHC level health care facility centres, but the required tests were not carried out in each ANC for monitoring the health status of the PWs and recorded in the Mother Child Protection (MCP) card.

Paragraphs 6.1.1 & 6.1.3

No separate arrangement for Intra-partum care of the expected mothers were made by any of the test-checked hospitals including the State Hospital, Agartala. Under the JSSK Programme of RCH, despite availability of funds, all State DHs and State Hospital (GBPH) forced the patients to purchase medicines from the market, due to non-procurement of medicines by these hospitals.

Paragraph 6.1.5

The rate of institutional deliveries increased from 86.8 *per cent* in 2014-15 to 93.3 *per cent* in 2018-19 of the total deliveries in the State.

Paragraph 6.1.6

Audit noticed that the mothers were discharged from the health care facilities after the birth of babies but medicines were provided subject to their availability in the hospital. Thus, cash less motherhood as envisaged in the JSSK guidelines was not ensured. None of the test-checked CHC and PHC maintained the Postnatal Care Services (PNC) register for verification of services given.

Paragraph 6.1.10

The State Hospital at Agartala show maximum deliveries and also high Neo-natal deaths. The role of the ASHA worker in reducing Neo-natal deaths was not verifiable in absence of any documentation.

Paragraph 6.3.2

Recommendations

- i. *The Department may advise the District Hospital administration to ensure that details of health check-up and clinical diagnosis of pregnant women carried out during ANC are properly recorded in the Mother Child Protection (MCP) card. Similarly, all post-natal care activities are also to be recorded in the MCP card as per the provisions.*
- ii. *Monitoring of maternal health care may be strengthened by recording ANC and PNC details in the MCP card.*
- iii. *The DHs may specifically address adverse trends in still birth cases and Neo-natal deaths.*
- iv. *The benefits of the JSSK programme need to be disseminated to the beneficiaries and the Department needs to step up its spending under RCH programme to provide quality services and free medicines to pregnant and lactating mothers.*

Cancer Care and AIDS Care

Cancer care

Cancer of Lung, Esophagus and Larynx are most common in men while cancer of Cervix, Breast and Gall Bladder were most common in women in Tripura. More than half of cancers in men are associated with the use of tobacco. Number of cancer cases in the State has been showing an increasing trend over the years from 2015 to 2019.

Paragraph 7.1.2

Awareness for screening of cancer was very poor among the people of the State and high incidence of tobacco use among both men and women was noticed. No annual targets were fixed for screening of cancer under Universal Population Based Screening (UPBS) programme thus deviating from the programme objectives. However, NCD Clinics as per the National Programme Preparation and Control of Cancers, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) programme were set up in 87 *per cent* of all healthcare facilities of the State and were available in all DHs of the State.

Paragraphs 7.1.3, 7.2 & 7.2.1

Information Education Communication (IEC) and Behaviour Change Communication (BCC) activities failed to achieve the targeted milestones. Monitoring activities were deficient and regular monitoring meetings were not held.

Paragraph 7.2.3

Recommendations

- i. *Awareness and screening activities for cancer among the people of the State need to be scaled up. Screening facilities in DHs need to be ramped up with manpower and equipment.*

Executive Summary

- ii. Coverage under Universal Population Based Screening (UPBS) need to be target based and action plan need to be prepared in this regard.
- iii. IEC and BCC activities need to be strengthened to cover the annual targeted interventions.
- iv. The Department needs to step up its monitoring of the NPCDPS programme with regular and effective intervention in programme implementation.

AIDS Care

Prevalence rate of Human Immunodeficiency Virus (HIV) out of total number of adults (15-49 years) population in the State has come down significantly from 0.24 to 0.09 during 2011 to 2017 and remained well below the All India average of 0.22 in 2017.

Paragraph 7.3.1

Incidence of HIV was increasing among the non-high risk group population and children. IEC activities have shown a decreasing trend, during 2015-16 to 2018-19. IEC activities were found deficient and failed to create awareness for early HIV tests during pregnancy and also among the non-high risk group of population. The Department could utilise ₹ 2.43 crore (61 per cent) out of the total available funds of ₹ 4.01 crore approved by NACO during 2014-19.

Paragraphs 7.3.3, 7.3.4 & 7.3.7

Recommendations

- i. Reasons for increasing incidence of HIV among the non-high risk group population may be analysed and appropriate strategy to curb the prevalence needs to be adopted.
- ii. Information Education Communication (IEC) activities need to be strengthened.
- iii. For prevention of mother to child transmission of Acquired Immune Deficiency Syndrome (AIDS), early HIV tests during pregnancy may be ensured and recorded in the Mother and Child Protection (MCP) card.
- iv. The Inter State Truckers may be encouraged to undergo HIV testing and the HIV screening facility at the entry point at the State may be made operationalised for 24x7.

Outcome Indicators

DH, Dhalai had low bed occupancy and an alarmingly high referred out rate of 82 per 1,000 indicating that this hospital had struggled to provide quality services. The LAMA rate was high in DH, Unakoti at 79 per 1,000 while Absconding rate was seven per 1,000 in GBP Hospital. DHs were incapable of providing quality health care for serious/major diseases and beneficiaries were travelling to the State level hospitals in West Tripura District, as reflected in their high BOR of 139 per cent.

Paragraphs 8.1 to 8.5

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 in the Department should be revamped by including measurement of outcome indicators pertaining to productivity, efficiency, service quality and clinical care capability of the hospitals. The high Leave Against Medical Advice (LAMA) and Absconding rates in test-checked hospitals may also be addressed by improving counselling services.*
- iii. *State Government may consider expansion of bed capacity of the State Hospital keeping in view the increasing patient load, with all ancillary arrangements.*

CHAPTER I

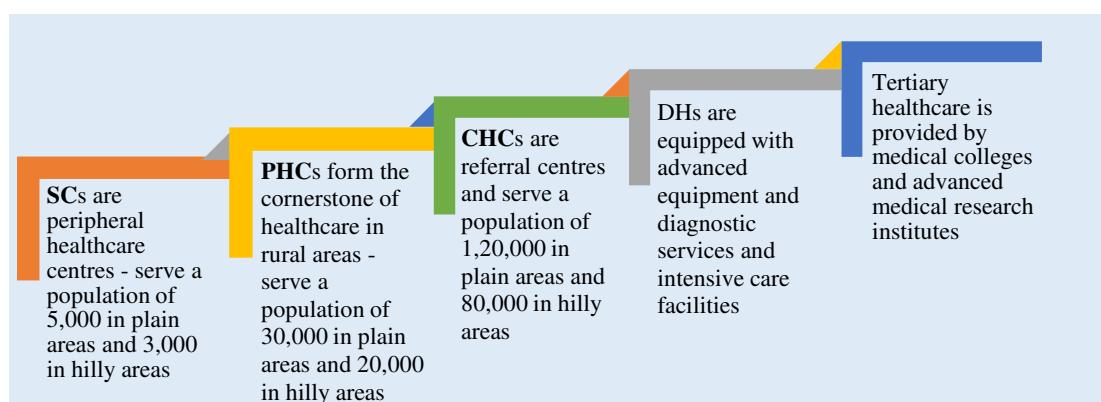
INTRODUCTION AND AUDIT FRAMEWORK

Chapter-I: Introduction and Audit Framework

1.1 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 protective health care 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 to be 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 **Chart 1.1**.

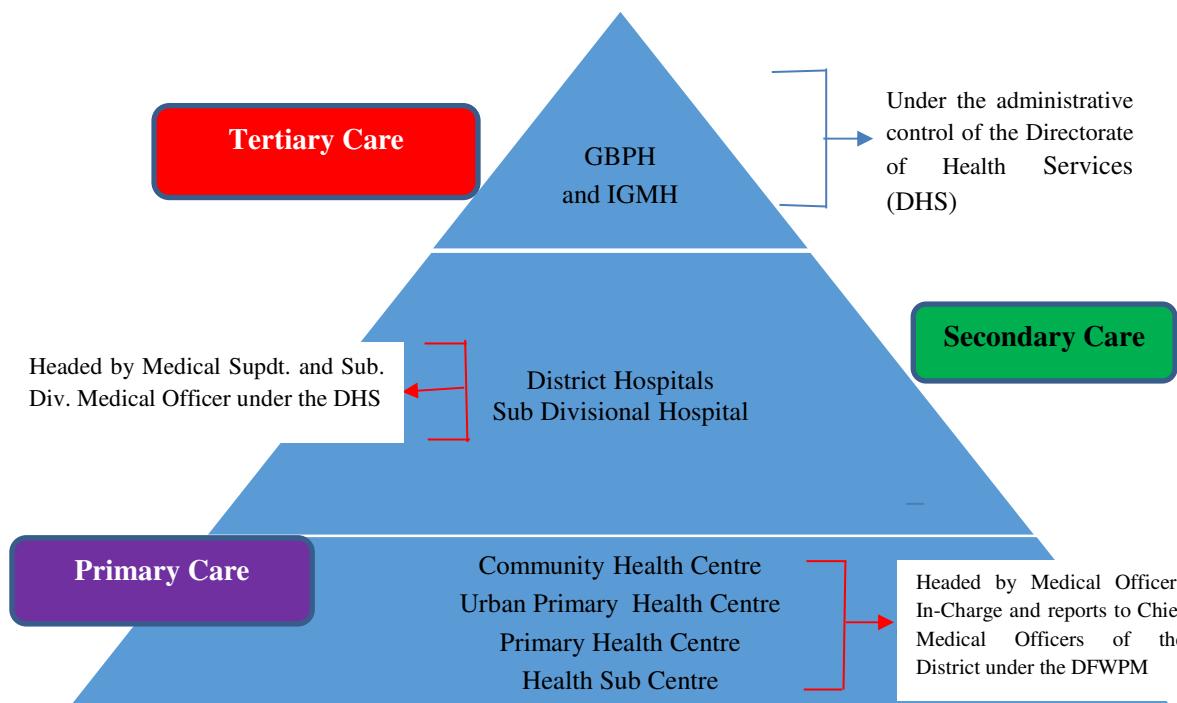
Chart 1.1



1.2 Overview of public healthcare facilities in Tripura

Tripura is the third smallest State in India which had a population of approximately 40 lakh during 2018-19. To cater to the healthcare services of its citizens at different levels, the State has two tertiary level health care facilities in the State capital *viz.* Agartala Government Medical College and Govind Ballabh Pant Hospital (GBPH) and Indira Gandhi Memorial (IGM) Hospital, six District Hospitals for eight districts, 12 Sub Divisional Hospitals (SDHs), 22 Community Health Centres (CHCs), four Urban Primary Health Centres (UPHCs), 116 Primary Health Centres (PHCs) and 1,005 Sub-Centres (SCs). The structure of public healthcare facilities in the State for providing primary care, secondary care and tertiary care, is shown in **Chart 1.2**.

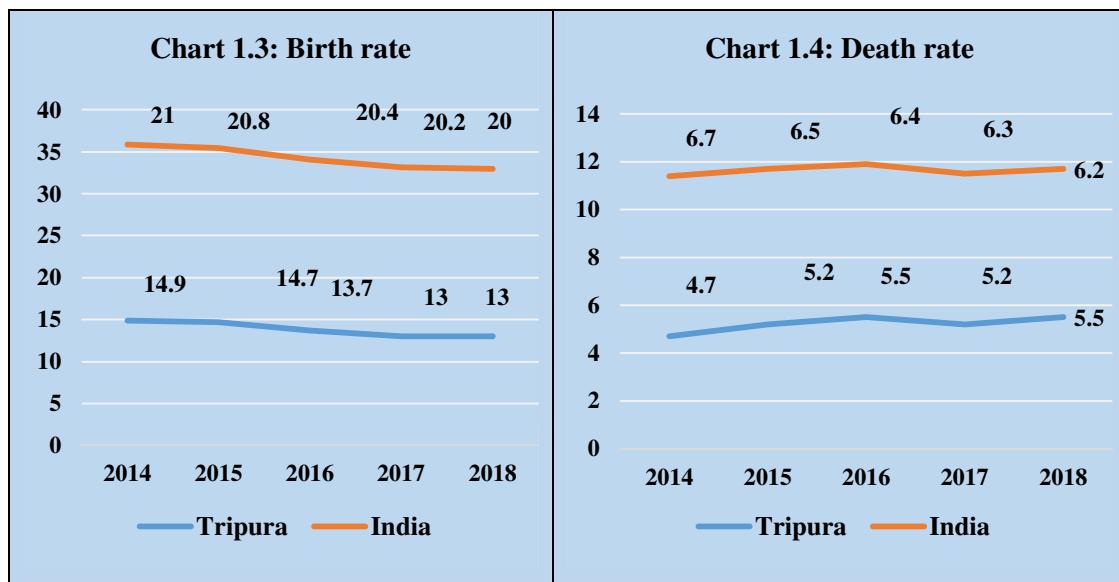
Chart 1.2: Details of Health Facilities in the State



The above health facilities at each level are under the administrative control of the Health and Family Welfare Department, Government of Tripura.

1.3 Health indicators of the State

The Tripura State's health indicators as per Sample Registration Survey¹ (SRS) and National Family Health Survey (NFHS) report are given in **Charts 1.3 and 1.4**.



Source: Sample Registration System (SRS) data, GoI

¹ SRS is being conducted by the Registrar General and Census Commissioner of India, Ministry of Home Affairs for arranging, conducting and analysing the results of demographic surveys

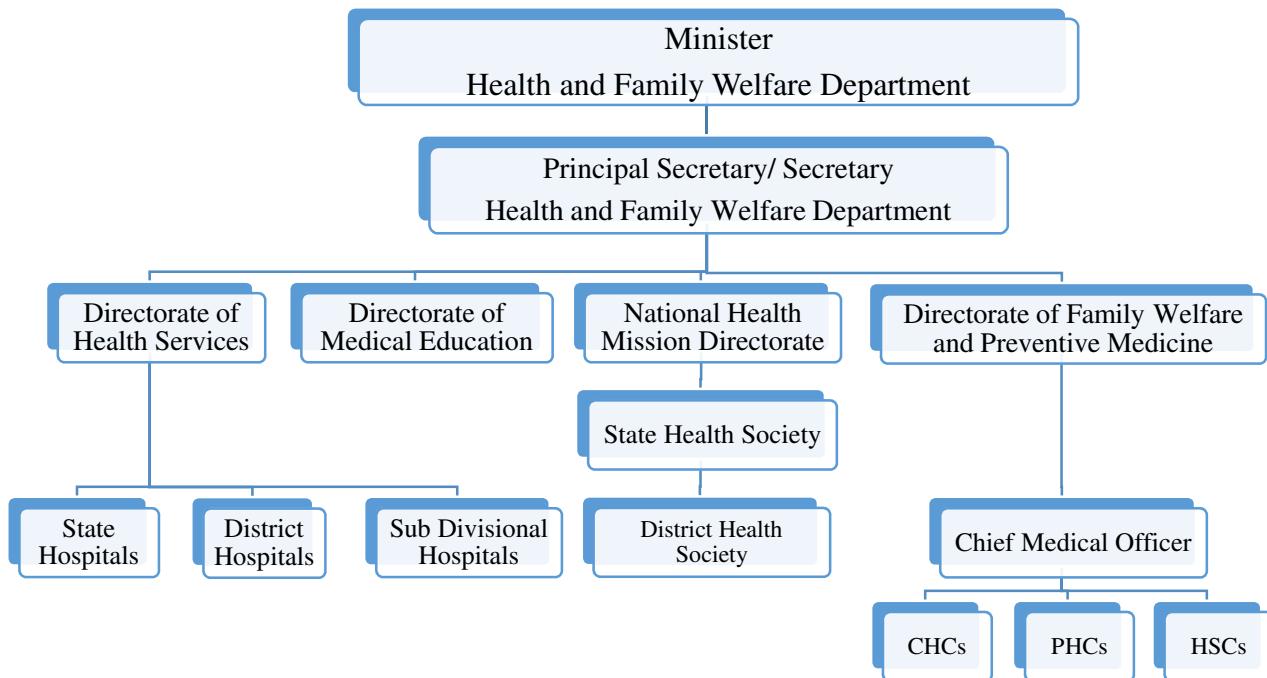
It was observed that the State's birth rate not only decreased from 14.9 in 2014 to 13 in 2018 but also remained lower than the national figures throughout the period. The rate of decline in birth rate from 2014 to 2018 in the State was higher (1.9 points) than the national rate. Death rate in the State, also remained lower than the national figures, but registered a upward trend, increasing from 4.7 in 2014 to 5.5 in 2018. The death rate was marginally better than the national rate of 6.2 in 2018.

Disaggregated data between rural and urban population of the above indicators during this period shows that the birth rate is higher in rural areas while death rate was more in urban areas except in the year 2017 when the death rate in urban and rural area was same. The natural growth rate of the population in the State is more in rural as compared to urban areas during 2014-18. These trends, *inter alia*, require to be addressed in the policy and programme implementation in the health sector of the State.

1.4 Accountability structure for healthcare in the State

Organogram of the Health and Family Welfare Department, Government of Tripura is given in **Chart 1.5**.

**Chart 1.5: Organogram of Health and Family Welfare Department,
Government of Tripura**



1.5 Audit framework

1.5.1 Background

Healthcare services in the North Eastern Region (NER) are inadequate, in terms of the number of health facilities available, as well as the quality of facilities provided. The primary reasons for inadequacy of the health services are hilly and difficult terrain,

insufficient budgetary outlay on health, shortage of generalist and specialist doctors and other medicare personnel and absence/ shortage of sophisticated diagnostic equipment, limited presence of private sector, *etc.* As per Government of India (GoI) (written statement of the Union Minister of State for Health & Family Welfare in Parliament), as of June 2019, the entire NER accounted for about 10 *per cent* (88 out of 851) of the District Hospitals available across the country. Tripura accounted for six out of these 88 (seven *per cent*) District Hospitals (DHs).

A Performance Audit on National Rural Health Mission (NRHM) covering the period 2011-2016 was featured in the report of the Comptroller and Auditor General of India (CAG) for the year ended 31 March 2016, Government of Tripura. During 2019, CAG decided to carry out a Performance Audit of healthcare services being provided at District Hospitals to assess the availability of resources identified as essential by Indian Public Health Standards (IPHS) for District Hospitals and to evaluate the overall quality of healthcare services provided by these hospitals in some selected domains.

1.5.2 Audit domains

The audit domains/ themes identified for the Performance Audit of selected District Hospitals are shown in **Chart 1.6**.

Chart 1.6: Audit domains

Resources	Line Services	Support Services	Auxiliary Services
<ul style="list-style-type: none">• Manpower• Infrastructure• Equipment• Drugs• Consumables	<ul style="list-style-type: none">• Out-patients• In-patients• Emergency• Operation & ICU• Laboratory & diagnostics	<ul style="list-style-type: none">• Drug storage• Hygiene• Infection control• Ambulance• Power backup	<ul style="list-style-type: none">• Patient rights• Patient safety• Referral services

1.5.3 Audit objectives

In pursuance of the audit domains/themes identified above, the objectives of carrying out a Performance Audit of select District Hospitals were to assess whether:

- i. adequate and essential resources - manpower, drugs, infrastructure, equipment, and consumables were available for effective functioning of the District Hospitals;
- ii. timely and quality healthcare was 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.* were aiding the line departments in providing a safe and sterile environment in the hospitals; and
- iv. adequate and timely healthcare services were available in selected services relating to maternal and infant care and specialities like cancer care.

1.5.4 Audit criteria

To evaluate the audit objectives, the criteria were sourced from the various guidelines on health care services as follows:

- Indian Public Health Standards (IPHS) guidelines for District Hospitals;
- National Health Mission (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;
- Swachhta 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;
- Operational framework for management of common cancers, GoI;
- Maternal and new born Health Tool kit, 2013;
- Government policies, orders, circulars, budgets, annual reports, etc.

1.5.5 Audit scope and methodology

The scope of audit involved assessing the functioning of selected District Hospitals, Primary/Community Health Centres (CHC and PHC) during the five-year period 2014-19 and evaluating the outcomes of selected indicators. The adequacy of facilities provided at the State level hospital was also examined to evaluate the referral linkages and advance health care facilities at the tertiary level.

The audit examination included records maintained at Directorate of Health Services (DHS), office of the Mission Director (MD), NHM, Tripura, offices of the Chief Medical Officers (CMOs), Central and District Medicine Stores, one State level hospital, two district-level hospitals, one CHC and one PHC in three districts across the State with two geographical regions *viz.* hill districts and plain districts.

Audit methodology involved scrutiny and analysis of records/data as per the audit objectives, scope and criteria, evidence gathering by scanning of records, joint physical inspection of various facilities of the test-checked hospitals and by taking photographs, issuing questionnaires/audit observations and obtaining replies, etc. Patient feedback was also obtained through appropriate questionnaires in electronic mode as well as on paper to gauge the quality of healthcare services being provided by the State Hospital and the selected DHs. Field level survey by visiting patients' home was also carried out to know their experience for un-favourable treatment outcomes {infant death and Left Against Medical Advice (LAMA) cases}. All the findings are suitably incorporated in the Report.

The Accountant General (Audit) Tripura held an entry conference in August 2019 with the Secretary, Health and Family Welfare Department, Government of Tripura who was represented by the Director of Health Services, Government of Tripura and other officers wherein the audit objectives, scope, criteria, *etc.* were discussed and the inputs of the Department were obtained before commencement of the field audit.

The draft Report of the Performance Audit was sent to the State Government for their comments in May 2020. Subsequently, an exit conference was held on 25 August 2020 with the Additional Chief Secretary, Director of Family Welfare and Preventive Medicine Department, Government of Tripura and MD, NHM, Tripura. The views/replies of the State Government were received in July 2020 and were duly considered and suitably incorporated in the Report at appropriate places.

1.5.6 Sampling methodology

There were six District Hospitals (DHs) in the State as on 31 March 2019. After reorganisation of the State from four districts to eight district in 2012-13, three hospitals² came up in the year 2015-16 and infrastructural facilities are gradually coming up in the newly created DHs and considered yet to be matured for outcomes audit. Out of the remaining three old DHs³, Infant Mortality Rate (IMR) has been considered as primary parameter for selection of the sample DH and two DHs namely, DH, Dhalai and DH, Unakoti were selected through Probability Proportional to Size and With Replacement (PPSWR) method. GBP Hospital was selected as the biggest State Hospital located in the Capital District. Two DHs fall in the hilly region of the State while GBPH falls in the plains region. Sample districts are shown in **Table 1.1**.

Table 1.1: List of sampled hospitals/PHC/CHC

District	Hospital		Number of sanctioned beds
West	State Hospital	Govind Ballabh Pant Hospital, Agartala (GBPH)	726
Dhalai	District Hospital	DH, Dhalai	150
Unakoti	District Hospital	DH, Unakoti *	150
Mohanpur	CHC		12
Mandwi	PHC		6

*Though the DH, Unakoti come up in 2012 the DH actually started functioning as a full fledged DH from February 2017

1.6 Acknowledgement

The office of the Principal Accountant General (Audit), Tripura acknowledges the co-operation extended by the Health and Family Welfare Department and the offices visited by the audit team and the sampled hospitals and Community and Primary Health Centres, in particular in conduct of the Performance Audit.

² DH, North at Dharmanagar, DH, Khowai at Khowai and DH, South Tripura at Santirbazar

³ DH, Gomati at Udaipur, DH, Dhalai at Kulai and DH, Unakoti at Bhagaban Nagar

CHAPTER II

FINANCIAL RESOURCES

Chapter II: Financial Resources

2.1 Fund management

The Health & Family Welfare Department, Government of Tripura received funds from two main sources: (i) State budget, which also included funds from North Eastern Council (NEC) 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

The vision and priorities of any government are materialised through their annual budget and actual spending. 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 Expenditure to more than eight *per cent* of the budget by 2020. Overall budget allotment and expenditure of the State Government and of the Health and Family Welfare Department during 2014-19 is as shown in **Table 2.1**.

Table 2.1: Budget allocation and expenditure during 2014-19

(₹ in crore)

Year	State		Health Sector		
	Budget Allocation	Expenditure	Budget Allocation (Per cent of State budget)	Expenditure (Per cent of State expenditure)	Savings (Per cent of health Sector Budget allocation)
(1)	(2)	(3)	(4)	(5)	(6)
2014-15	14349.81	10774.74	962.66 (6.71)	646.43 (5.99)	316.23 (32.85)
2015-16	16567.02	11676.65	1019.59 (6.15)	610.33 (5.23)	409.26 (40.14)
2016-17	17909.66	12860.79	1033.07 (5.77)	681.93 (5.30)	351.14 (33.99)
2017-18	17390.11	12532.41	973.93 (5.60)	784.65 (6.26)	189.28 (19.43)
2018-19	17983.47	13956.84	1117.99 (6.22)	929.81 (6.66)	188.18 (16.83)
Total	84200.07	61801.43	5107.24 (6.07)	3653.15 (5.91)	1454.09 (28.47)

Source: Finance Accounts and Appropriation Accounts

As can be seen from **Table 2.1** that budgetary outlay on health services in the State during 2014-19 ranged from 5.60 *per cent* to 6.71 *per cent* of the State budget. The percentage of budgetary allocation to the health sector came down from 6.71 in 2014-15 to 5.60 in 2017-18 and it was 6.22 *per cent* in 2018-19. This was an issue of concern. The actual expenditure on health sector ranged from 5.23 *per cent* to 6.66 *per cent* of the total expenditure of the State during 2014-19. Expenditure on health services touched and exceeded six *per cent* of total expenditure of the State only during 2017-19. The Department did not utilise the allocated funds optimally during 2014-19 with the savings ranging from ₹ 409.26 crore (40 *per cent*) in 2015-16 to ₹ 188.18 crore (17 *per cent*) in 2018-19. In none of the five years, the budgetary commitment on health sector reached eight *per cent* of the total budget of the State.

The State's expenditure on Health Sector ranged between *1.70 per cent* and *2.19 per cent* of the Gross State Domestic Product (GSDP) during the period 2014-15 to 2018-19, as against the stipulation of NHP 2017, that States increase their Health Sector expenditure to *2.5 per cent* of the GDP, by 2025.

The expenditure of the test-checked State hospital and two DHs during 2014-15 to 2018-19 is given in **Table 2.2**.

Table 2.2: Expenditure of the test-checked State Hospital and DHs during 2014-15 to 2018-19

Year	2014-15	2015-16	2016-17	2017-18	2018-19	Total
GB Pant Hospital	92.84	81.55	95.18	107.86	138.09	515.52
DH, Dhalai	4.41	3.00	5.00	6.69	8.17	27.27
DH, Unakoti	0	0	0	6.04	8.49	14.53

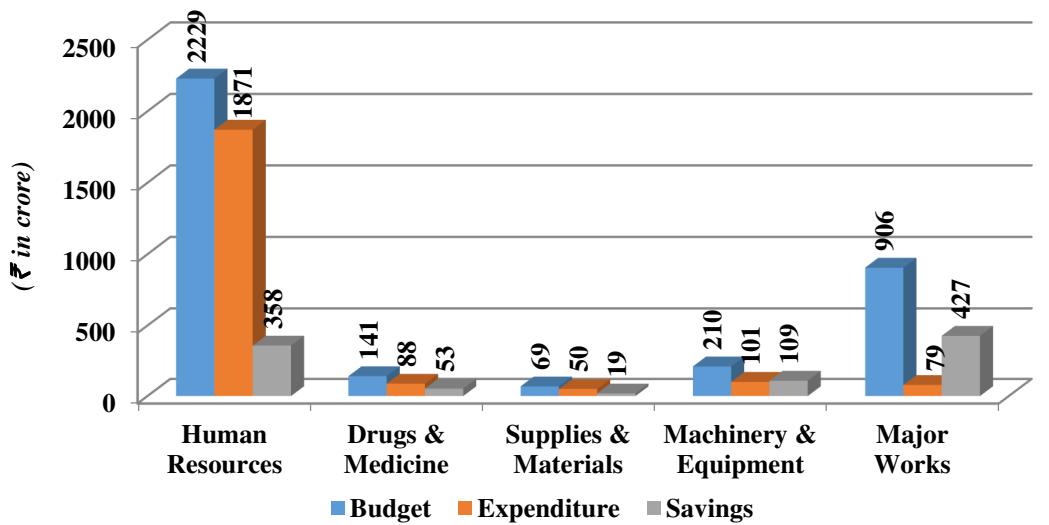
Source: Data of Voucher Level Computerisation (VLC) System maintained by the office of the Accountant General (A&E), Tripura

2.1.2 Revenue and capital expenditure

Out of the total expenditure of ₹ 3,653 crore incurred on health during 2014-19, the revenue expenditure constituted ₹ 3,020 crore (*83 per cent*) while the capital expenditure was ₹ 633 crore (*17 per cent*).

The allocation of funds under some significant object heads, representing the economic nature of expenditure of budget and expenditure under both revenue and capital heads during the audit period is given in **Chart 2.1**.

Chart 2.1: Budget allocation and expenditure and savings under Revenue and Capital heads during 2014-19

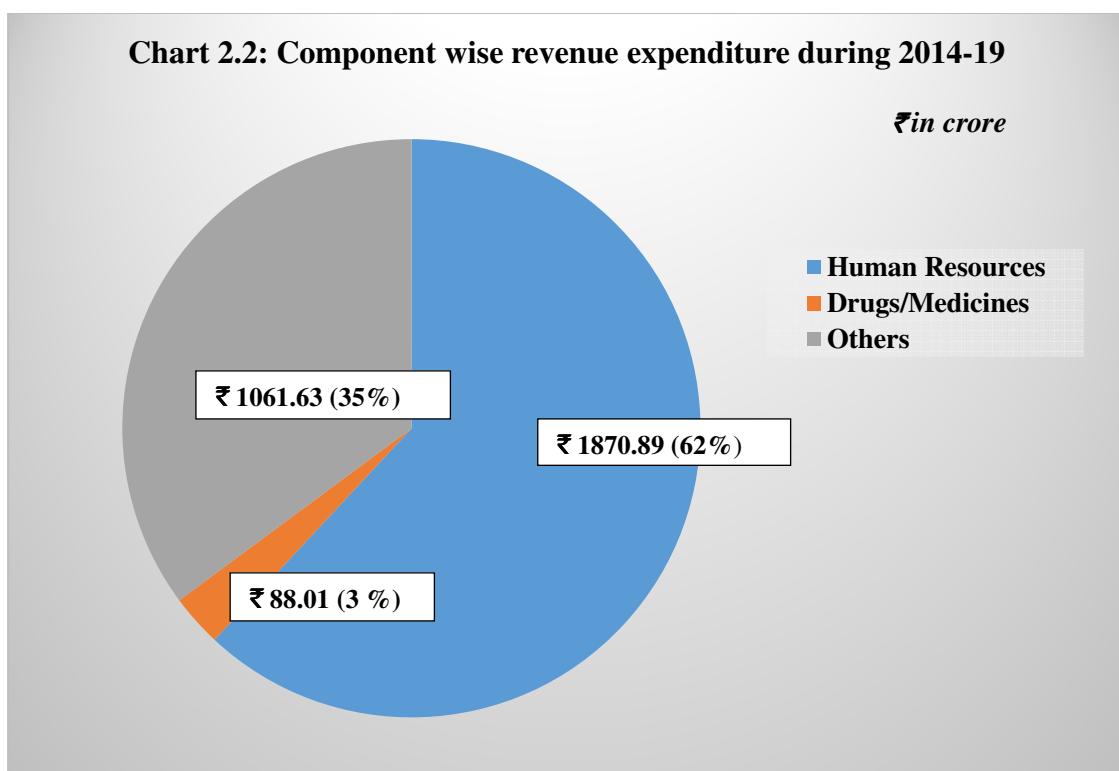


Source: Data of Voucher Level Computerisation (VLC) System maintained by the office of the Accountant General (A&E), Tripura

It was observed that under drugs and medicine, the allocation itself was only *2.76 per cent* of the budget allocation under the Health Sector and even the allocated

funds were not fully utilised during 2014-19. Similarly, allocation under machinery and equipment was only 4.11 *per cent* of the budget allocation under health and even the meagre allocation was not fully utilised, unutilised funds being 28 *per cent* of the allocation under supplies and materials. Under major works, the Department could utilise only 53 *per cent* of the budget allocation. The unspent funds had an adverse impact on the procurement and availability of drugs & medicine and machineries besides affecting infrastructure works and facilities under health 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 **Chart 2.2**.

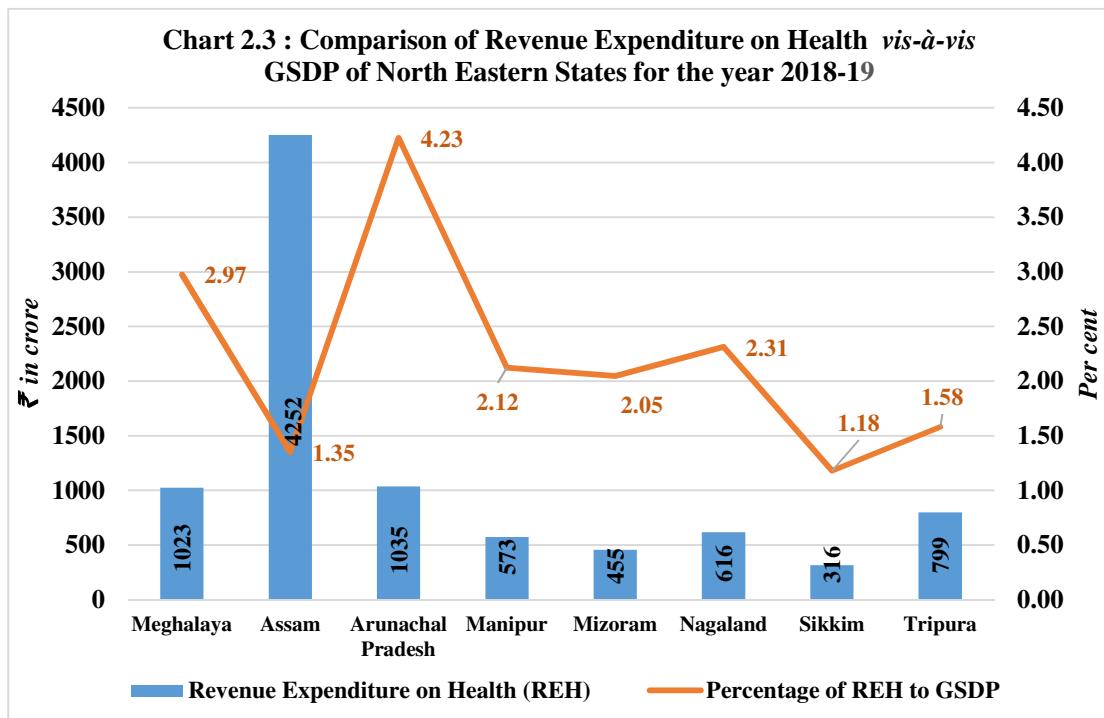


As can be seen from **Chart 2.2** that, 62 *per cent* of the revenue expenditure during the period was incurred on human resources (salary). The Department spent only three *per cent* of the total revenue expenditure on procurement of drugs/ medicines. Consequently, several instances of shortage or non-availability of essential drugs were observed in Audit.

The remaining 35 *per cent* revenue expenditure in the category “Others” included minor works (maintenance), repair/ purchase of vehicles, office expense, advertisements, rent, rate and taxes, scholarship & stipend, 108 ambulance services, payments to outsourced agencies for sweeping, cleaning and security services, machinery and surgical equipment, *etc.*

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, Tripura (₹ 799 crore) stood fourth after Assam (₹ 4,252 crore), Arunachal Pradesh (₹ 1,035 crore) and Meghalaya (₹ 1,023 crore). However, when we compare the revenue expenditure on health with GSDP, the position of Tripura (*1.58 per cent*) was last but two (Assam and Sikkim), as shown in **Chart 2.3**.



Source: CAG's State Finances Audit Report 2018-19 of respective States

The State Government did not furnish specific reasons for their failure to utilise fully the allocated resources.

2.1.4 Funds under National Health Mission (NHM)

Based on the approved State Programme Implementation Plans (SPIP), GoI sanctions funds under NHM to the State in the form of Grants-in-Aid and the same were released to the Mission Director, NHM, Government of Tripura (GoT). The funding pattern of NHM to the State of Tripura is in the ratio of 90:10 between the GoI and GoT. Year-wise position of receipt of funds and expenditure incurred there against during the five-year period from 2014-15 to 2018-19 is given in **Table 2.3**.

Table 2.3: Receipts and expenditure under NHM during 2014-19
 (₹in crore)

Year	Allotment as per SPIP			Opening balance	Funds received from		Interest accrued/ misc. receipts	Total funds available	Expenditure	Unspent balance (per cent)
	Total	GoI	GoT		GoI	GoT				
2014-15	174.88	157.39	17.49	97.94	125.46	14.17	2.24	239.81	132.81	107.00(45)
2015-16	154.53	139.08	15.45	107.00	123.17	12.35	0.55	243.07	113.61	129.46(53)
2016-17	153.01	137.71	15.30	129.46	123.67	13.78	1.52	268.44	146.80	121.63(45)
2017-18	165.55	148.99	16.56	121.63	124.46	11.34	0.50	257.93	174.47	83.46(32)
2018-19	187.41	168.67	18.74	83.46	177.09	22.68	1.54	284.77	213.10	71.68(25)
Total	835.38	751.84	83.54	539.49	673.85	74.32	6.35	1294.02	780.79	513.23(40)

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

As can be seen from **Table 2.3**, out of the total available funds of ₹ 1,294.02 crore (including opening balance of ₹ 97.94 crore at the beginning of 2014-15), the Mission Director, NHM utilised only ₹ 780.79 crore (60 *per cent*) and the unspent funds during 2014-19, ranged between 53 *per cent* to 25 *per cent*.

Further, during 2014-19, the total expenditure was less than 50 *per cent* of the available funds in respect of the following ten programmes under NHM as shown in **Table 2.4**.

Table 2.4: Healthcare programmes where the expenditure was less than 50 *per cent* during 2014-19

Name of the programme	Opening Balance	Amount received during 2014-19	Interest earned	Total fund available	Expenditure (per cent)	Closing Balance (per cent)
Reproductive and Child Health (RCH)	248.65	164.20	0.80	413.65	148.33 (36)	265.32 (64)
National Iodine Deficiency Disorders Control Programme (NIDDCP)	1.95	0.81	0.20	2.96	0.13 (4)	2.83 (96)
National Vector Borne Disease Control Programme (NVBDCP)	63.34	28.60	0.89	92.83	26.36 (28)	66.47 (72)
National Programme for Control of Blindness (NPCB)	10.30	8.49	0.23	19.02	7.33 (39)	11.69 (61)
National Mental Health Programme (NMHP)	6.44	2.66	0.14	9.24	0.38 (4)	8.86 (96)
National Programme for Healthcare of Elderly (NPHCE)	0.54	0.60	0.02	1.16	0 (0)	1.16 (100)
National Tobacco Control Programme (NTCP)	6.67	3.70	0.02	10.39	2.54 (24)	7.85 (76)
National Programme for Prevention and Control of Deafness (NPPCD)	0.66	0.22	0.01	0.89	0 (0)	0.89 (100)

Name of the programme	Opening Balance	Amount received during 2014-19	Interest earned	Total fund available	Expenditure (per cent)	Closing Balance (per cent)
National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS)	16.95	9.02	0.42	26.39	7.31 (28)	19.08 (72)
National Urban Health Mission (NUHM)	23.52	19.40	0.25	43.17	7.67 (18)	35.50 (82)

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

Under-utilisation of funds under important components of the NHM programmes would adversely reflect on the quality of health services provided in the State. While no money was spent on two programmes despite receipt of funds, the low utilisation of funds under RCH programme indicated that maternal and child health care services in the State have been affected adversely.

Conclusion

The State's budget allocation and expenditure of the health sector against the overall State budget during 2014-19 was 6.07 *per cent* and 5.91 *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's expenditure on health sector ranged between 1.70 *per cent* and 2.19 *per cent* of the State's GSDP, during the period 2014-19. The State spent very little on strengthening/ providing health infrastructure. The State Government did not utilise the allocated funds optimally with the unspent funds ranging from ₹ 316.23 crore (33 *per cent*) in 2015-16 to ₹ 188.18 crore (17 *per cent*) in 2018-19. The outlay on drugs & medicine, machinery and equipment was poor while the Department could not utilise 47 *per cent* of the budget on major works. The unspent funds had an adverse impact on the quality of health services provided in the DHs in the State.

Further, NHM funds pooled under various important national health programmes were poorly utilised or not spent at all, with the unspent funds ranging from 53 *per cent* to 25 *per cent* of the available funds during the period 2014-19.

Recommendations

- i. *The State Government may enhance their budget provisions and increase expenditure on healthcare services to ensure that adequate and quality healthcare infrastructure and services are provided to the people of the State. They may ensure utilisation of the allocated funds on time for implementation of programmes under National Health Mission (NHM).*
- ii. *The State Mission Director, NHM may enquire the reasons for sub-optimal 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.*

CHAPTER III

ESSENTIAL RESOURCES MANAGEMENT

Chapter III: Essential Resources Management

3.1 Human Resource Management

Human resources form the backbone of any healthcare set up. A hospital is often defined by the quality of staff. Having qualified and experienced manpower directly impacts the quality of services provided by the hospital. Thus, manpower planning is given considerable importance during planning and commissioning stages due to its significant role in the hospitals' efficiency and service delivery to the intended group of people. Indian Public Health Standards (IPHS) guidelines envisage that doctors and nurses should be available round the clock in IPD to provide due medical care to the in-patients. These guidelines also prescribe the minimum number of doctors and nurses to be available in different hospitals according to the number of sanctioned beds. The DHS, stated (July 2020) that the State had no norms for posting of human resources in the health facilities in the State and did not adopt/ follow the IPHS norms, which were stated to be aspirational.

3.1.1 Staff position

The State has sanctioned posts of 1,480 Medical Officers without any cadre division of specialist and non-specialist doctors. The sanction was last revised in the year 2007 and thereafter no revision was made despite setting up of six DHs, six SDHs, four CHCs and 33 PHCs in the State¹. Against the 1,480 sanctioned post of doctors in the State Hospitals, the State had 999 doctors (67.50 *per cent*) posted in these hospitals as on 31 March 2019.

Sanctioned strength, recruitment, re-appointment and person-in position in the cadre of Medical Officers (Allopathic), dental surgeon, staff nurse and paramedical staff during 2014-19 are given in **Table 3.1**.

Table 3.1: Sanctioned strength, recruitment & re-appointment of staff

Name of the Post	Sanctioned Strength	Requirement as per IPHS norms	New Recruitment	Re-appointment	Person-in position as on 31.03.2019	Shortage w.r.t (per cent)	
						Sanctioned Strength	IPHS norms
Medical officer (Allopathic)	1480	2148	368	NIL	999	33	53
Dental surgeon	186	NA	22	NIL	53	71	NA
Staff nurse	2678	NA	638	NIL	2271	15	NA
Paramedical staff	2219	NA	419	1	1199	46	NA

Source: Departmental reply, NA=IPHS norms not available

¹ For establishment of new SDH, CHC and PHC, Census 2011 data has been utilised. As per Census data, State had 83 PHCs, 18 CHCs and six SDHs.

The State was running an acute shortage of Medical Officers (*33 per cent*) dental surgeons (*71 per cent*) and paramedical staff (*46 per cent*) as compared to sanctioned strength. There was *15 per cent* shortage in the nursing staff. To meet up the shortages, the State Government was getting support from the National Health Mission (NHM) for engaging health personnel on contract (details in the **Appendix 3.1**). Since the NHM was intended to supplement and not to substitute the State's human resource requirement against the regular positions, the use of NHM support to man regular positions of Health Department was an indication of low commitment of the State to provide adequate human resource support for health care services. Meanwhile, an interim proposal (July 2019) for filling up of vacancies of 150 posts of doctors was also not considered (August 2019) by the Finance Department due to fund constraints. This was not justifiable considering the low spending in the State, of average of *six per cent* only on the health sector.

The attractiveness of State health service was also at stake as the only mode of recruitment is as general duty Medical Officer for both specialist and non-specialist doctors and there is no formal transfer and posting policy with weightage given to rural and urban postings, non-creation of separate cadre for specialists and also the Non Practicing Allowance (NPA) paid to doctors is very low. These issues are discussed in the succeeding paragraphs.

Government accepted the facts and stated that (July 2020) the Department was running with acute shortages of specialists, general duty Medical Officers, dental surgeons and other health personnel due to lack of recruitment of sufficient number of health personnel. It was also stated that proposal for recruitment of 150 posts of Medical Officers was not considered by the State Finance Department due to funds constraint.

3.1.2 Non-revision of sanctioned strength of the Medical Officers

Though NRHM/IPHS norms were published in 2012, the State had failed to revise sanctioned posts of doctors in accordance with said norms. It has also not reviewed creation of additional health infrastructure in the State, subsequent to 2007 with the increasing burden on existing health facilities.

The State had an overall shortage of 1,149 doctors as per the IPHS norms while there were shortage of 481 doctors against the sanctioned post despite the fact that sanctioned strength was not revised since the last thirteen years. There was an overall vacancy of *33 per cent* against sanctioned posts as on 31 March 2019. There were no separate sanctioned posts for the health facilities in the State including for the DHs too. The Government had no norms² for posting of different categories of staff in different level of institutions. Audit noticed that the State Government established three DHs in the year 2015-16, new SDHs, CHCs and PHCs buildings without increasing the existing sanctioned strength and without considering other ancillary

² State has no norms for posting and transfer and did not adopt IPHS norms also. However, all comparison in the report has been made with reference to the IPH Standards.

requirement *viz.* machinery, equipment, *etc.* as per the IPHS norms rendering these facilities as sub-standard.

3.1.3 Non-engagement of specialist doctors

The total requirement³ of specialists in the DHs, SDHs and CHCs as per IPHS norms was around 260, there was sufficient ground to consider creation of specialist cadre. The State Government introduced bond for the Under Graduate (UG) and Post Graduate (PG) students of the Medical Colleges of the State and outside the State for serving in State Government health care facilities for at least five years immediately after successful completion of the medical studies course. The nature of offer of appointment was contractual in nature. Present policy to recruit general duty Medical Officers and then sending them for pursuing PG courses after completion of eligibility conditions resulted in erratic and *ad hoc* supply of the specialists.

Though the Government stated (July 2020) that a proposal had been initiated for creation of specialist cadre, no such proposal was finalised (December 2020).

To meet up the shortages in the specialist cadre in the DHs in the State, the Mission Directorate, NHM, Tripura kept a provision for engagement of 16 specialist doctors in the discipline of General Surgery, Orthopaedics, Obstetrics and Gynaecology, Anaesthesia, Paediatrics and Cardiology on full time/ part time/ consultancy basis in the Programme Implementation Plan (PIP), 2018-19. The NHM, Tripura made a proposal in the PIP Plan for 2018-19 for engagement of specialist doctors on contract basis in the health facilities in the State. The proposal was approved in full by the Ministry of Health and Family Welfare (MoHFW), Government of India and ₹ 1.92 crore was approved in the Record of Proceeding (ROP) 2018-19.

No appropriate study on the availability of specialist doctors in the State or the availability of doctors who are willing to serve in the State from outside the State, likely remuneration required to be paid to the specialist doctors for their service in the district level hospitals and the modalities for their engagement, *etc.* were made by Department.

As a result, though full sanction was accorded by the Ministry during 2018-19, only four specialist doctors⁴ were recruited by the NHM and posted in the Sub-division level hospitals and rest of the posts remained vacant (July 2020) and the DHs suffered from the shortage of specialists in the respective discipline. Proposal of the NHM, Tripura is given in **Table 3.2**.

³ Excluding the State Hospital (GBPH) as it is not covered under IPHS

⁴ Two surgeons and two Obstetrics and Gynaecology specialists

Table 3.2: Requirement of Specialist Human Resource (HR) for District Hospitals

Requirement of specialist HR for District Hospitals								
District	Health facility	General Surgeon	Orthop-aedic	O&G	Anaesthetist	Paediatrician	Cardiologist	Total
Dhalai	DH, Dhalai	1	1	1	1	1	0	5
Gomati	DH, Gomoti	0	0	0	1	0	0	1
Khowai	DH, Khowai	0	0	0	0	0	0	0
North Tripura	DH, North Tripura	1	0	0	1	1	0	3
South Tripura	DH, South Tripura	1	1	1	0	1	0	4
Unakoti	DH, Unakoti	0	0	0	0	0	0	0
West Tripura	IGM Hospital	1	1	0	0	0	1	3
Total Requirement		4	3	2	3	3	1	16

Government stated (July 2020) that out of the sanctioned posts, eight posts were filled and also accepted that posting of the doctors were not done in the identified health facilities as per the proposal sent to the Ministry.

Though the State Government had an opportunity to mitigate the shortage of doctors in the State through contract appointment, Audit noticed that the Government did not enforce the ‘bond conditions’ on the UG/ PG medical students passing out from State’s Medical College as the State did not offer them an appointment within six/twelve months of the completion of the course as per bond agreement and relieved them from the bond conditions. Reason for non-enforcing of bond conditions to the PG/ UG passed outs were not found on records.

Audit noticed that during 2014-19, 94 medical students completed PG courses from the Agartala Government Medical College (AGMC) under the State quota. Of that, 76 candidates were in-service doctors from the State health service and joined back to the State service after completion of PG course. The Government did not make appointment on contractual basis and could not utilise the service of the remaining 18 PG passed out doctors on short term basis as it did not offer them contractual employment. Further, the Government could have utilised their services on long term basis had the regular recruitment been done in the appropriate cadre. Detail position is given in **Appendix 3.2**.

Government stated (July 2020) that it would consider introduction of bond for at least one year, for the PG student who avail All India Quota (AIQ) for pursuing PG courses in GBP Hospital from outside State. That kind of post PG bond has been imposed in many States. The reply is silent on non-enforcement of the bond conditions till date on all students whether from the State or outside as per conditions agreed at the time of admission to the study course.

3.1.4 Non-revision of Non Practicing Allowance (NPA)

An attractive Non-Practicing Allowances (NPA) to the doctors borne in the State health service is one of the means to retain them in government service. It was seen

that in the State the NPA ranged from a mere ₹ 1,000 to ₹ 2,000 for Grade IV to I in contrast to the rate⁵ offered by the Central Government which ranged between ₹ 10,800 to ₹ 23,700. The NPA was obviously not attractive since 2009, forcing the doctors in the State service to decline the NPA offered by the Government and to prefer private practice with a conflicting interest to the hospital service. It was seen that only 19 *per cent* doctors in the DH, Unakoti and 42 *per cent* doctors in the DH, Dhalai were drawing NPA. Though, it was stated that eight specialist doctors were recruited but posting details of only four doctors⁶ were provided. Since the shortage of specialist doctors in government health facilities is observed all through-out India, the State Government should have adopted aggressive and highly remunerative policy to attract specialists in the State.

Government accepted (July 2020) the facts and stated that rate of NPA was last revised in the year 2009 and was not attractive. The doctors in the State service tend to decline the NPA offered by the Government and prefer private practice with a conflicting interest to the State hospital service.

3.2 Shortage of specialist doctors in health facilities

According to the IPHS norms for providing basic minimum healthcare service even at the Community Health Centre, Sub Divisional Hospital, provision for a General Surgeon, a Physician (General Medicine), Obstetrician & Gynaecologist, Paediatrics, Anaesthetist and an Eye Surgeon for every SDH and for five CHC, Radiologist for every SDH, is required while the district level health care facilities have separate requirement. Considering that the State has six DHs, 500 bedded State Hospital⁷, 12 SDHs and 22 CHCs, requirement of specialist doctors and their availability are shown in **Table 3.3**.

Table 3.3: Shortage of specialist doctors in the DHs, SDHs and CHCs as on 31.03.2019

Sl. No.	Name of the discipline	Requirement for DHs ⁸	Requirement for SDH and CHC ⁹	Total Requirement for DHs, SDHs and CHCs as per IPHS Norms	Availability with the Department	Doctors posted in the State Hospital	Availability after meeting requirement of SH	Shortage (<i>per cent</i>)
1.	Medicine	17	34	51	34	16	18	33 (65)
2.	Surgery	16	34	50	19	16	3	47 (94)
3.	Obs and Gaynae	24	34	58	30	15	15	43 (74)
4.	Anaesthesia	16	34	50	26	17	9	41 (82)
5.	Ophthalmology	8	17	25	17	7	10	15 (60)
6.	Paediatrics	23	34	57	26	9	17	40 (70)
7.	Orthopaedics	8	12	20	14	12	2	18 (90)
8.	Radiology	8	12	20	9	7	2	18 (90)

Source: IPHS Norms, data provided by DHS and the AGMC& GBPH

⁵ 20 *per cent* of the pay of the pay matrix

⁶ SDH, Melaghar (1), Bishalgarh (2) and Kamalpur (1)

⁷ IGM Hospital, Agartala and considered as 500 bedded DH for man power evaluation

⁸ All the DHs in the State fall under the category of 101 to 200 bedded hospital under IPHS

⁹ SDH 12 Nos. and CHC 22 Nos.

In addition to the above, the State had separate requirement for the 726 bedded GBP Hospital attached to the AGMC. No specific sanctioned post for doctors in the AGMC was available. The State had no norms of their own for posting of specialists in the CHCs and SDHs in the State. State was not following the IPHS norms to man these hospitals with required adequate number of doctors. Shortage of specialist doctors in the selected State hospital and DHs is shown in the **Table 3.4**.

Position of availability of specialist doctors in the selected DHs is given in **Table 3.4**.

Table 3.4: Position of availability of specialist doctors in the selected DHs

Sl. No.	Name of the discipline	Requirement as per IPHS Norms (bed capacity 101 to 200)	Availability in DH, Dhalai	Availability in DH, Unakoti	Shortage (per cent)	
					DH, Dhalai	DH, Unakoti
1.	Medicine	2	1	1	50	50
2.	Surgery	2	1	1	50	50
3.	Obs&Gynae	3	2	2	33	33
4.	Paediatrics	3	2	1	33	66
5.	Anaesthesia	2	1	1	50	50
6.	Ophthalmology	1	1	1	0	0
7.	Orthopaedics	1	1	1	0	0
8.	Radiology	1	0	1	100	0
9.	Medical Officers	14	17	12	-	14

Source: IPHS norms and the data provided by the respective DH

From the **Tables 3.3** and **3.4** it appears that there were shortages of specialist doctors ranging from *60 per cent* to *94 per cent* of the requirement for CHC, SDH and DH level hospitals. Maximum shortage was noticed in the discipline of Surgery, Orthopaedics and Radiology which ranged from *90 per cent* to *94 per cent*. In respect of test-checked DHs, majority of the specialities *viz*, Medicine, Surgery, Anaesthesia, etc. were running with a shortage of *50 per cent* as compared to IPHS norms while paediatric units were running with a shortage of *33 per cent* to *66 per cent* against the IPHS norms. In respect of Medical Officers, the District Hospital, Unakoti witnessed a shortage of *14 per cent* while there was excess posting of three Medical Officers in the DH, Dhalai.

Government stated (July 2020) that the Department was running with massive shortage of Medical Officers. It also stated that in-service Medical Officers were undergoing PG courses in different Medical Colleges in the State and outside the State. On completion of PG courses, the Medical Officers were posted in the DHs and SDHs. Due to shortage, no specialist Medical Officer was posted in CHCs. It was also assured that on availability, specialist doctors would be posted in the CHCs also.

3.2.1 Shortage of doctors in the State and test-checked State DHs

Scrutiny revealed shortage of doctors (including specialists) in all the test-checked DHs *vis-à-vis* IPHS norms. Availability of doctors with reference to the IPHS norms and sanctioned posts in test-checked State Hospital and DHs as of March 2019 is shown in **Table 3.5**.

Table 3.5: Availability of doctors vis-à-vis IPHS norms in test-checked State Hospital and DHs as of March 2019

Particulars	Specialist vs Non-specialist									
	GBPH ¹⁰			DH, Dhalai			DH, Unakoti			
	Specialist	Medical Officers	Total	Specialist	Medical Officers	Total	Specialist	Medical Officers	Total	
Requirement as per IPHS norms	44	24	68	20	14	34	20	14	34	
Availability	155	105	260	14	17	31	15	12	27	
Shortfall of PIP against IPHS norms (per cent)	(+) 111 (252)	(+) 81 (338)	(+) 192 (282)	(-) 6 (30)	(+) 3 (21)	(-) 3 (9)	(-) 5 (25)	(-) 2 (14)	(-) 7 (21)	

Source: Records of test-checked State Hospital and DHs

From **Table 3.5** it appears that the shortage of the specialist doctors ranged from 25 *per cent* to 30 *per cent* in the test-checked DHs. The overall shortage of doctors in the test-checked DHs, ranged from nine *per cent* to 21 *per cent*. There was excess posting of specialist and Medical Officer in the State Hospital.

The shortage of specialists in DH, Dhalai is a cause of concern. No general and orthopaedic surgeries were performed in this DH due to non-posting of specialist doctors in these discipline. It is only in 2018-19, that a surgeon¹¹ was posted in the DH who also held the charge of Medical Superintendent of the hospital. Being in close proximity to the National Highway, the presence of the surgeon is essential in view of the road traffic accident on the National Highway. Audit observed that the lone surgeon cum Medical Superintendent of DH, Dhalai was on an administrative assignment to Agartala (90 KM away) on 6 September 2019. In view of a road traffic accident on that date, the victim would not have received immediate treatment at DH, Dhalai and would have to perform a three hours journey to the State Capital for medical succours.

No specific reply was furnished by the Government. However, it was stated (July 2020) that a proposal for recruitment of 150 posts of Medical Officers was not considered by the State Finance Department due to funds constraint during 2019. The Department has not furnished any steps taken by them to further their proposals for recruitment of doctors, with the State Government.

3.2.2 Shortage of nurses in test-checked State Hospital and DHs

The IPHS envisaged the following nurse-bed ratio for a functional District Hospital of different bed strengths; 45 nurses for 100 beds; 90 nurses for 200 beds; 135 nurses for 300 beds; 180 nurses for 400 beds and 225 nurses for 500 beds. Thus, the nurse-bed ratio is 0.45:1.

The hospital wise requirement of nursing staff and actual position (PIP) as per IPHS norms are presented in **Table 3.6**.

¹⁰ There is no IPHS norms for State Hospital. However, GBP Hospital has been evaluated with IPHS norms for DH having 500 bed capacity.

¹¹ As per the IPHS two surgeons are required to be posted in the DH

Table 3.6: Number of functional beds, required number of nurses, PIP and shortfall in the test-checked State Hospital and DHs

Sl. No.	Hospital	No. of functional beds	Required No. of Staff Nurses as per IPHS norms @0.45 nurse per bed	PIP as on 31.03.2019	Shortfall (in per cent)
1	GBPH	726	327	592	(+) 265 (81.03)
2	Dh, Dhalai	150	68	47	21(30.88)
3	DH, Unakoti	150	68	49	19(27.94)

Source: IPHS and records of test-checked DHs

We noted that out of the total 2,678 sanctioned post of nurses for the health facilities of the State, the State had 2,271 nurses (84.80 *per cent*). Further, there was an overall shortfall of 29.41 *per cent* of nursing staff in the test-checked DHs as per IPHS norms.

No reply was furnished by the Government (December 2020).

3.3 Physical infrastructure

3.3.1 Non-availability of District Hospital

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.

Audit noticed that though the people of West Tripura District had facilities of three State level hospitals but the people of Sepahijala District were deprived of comprehensive secondary level health care services despite the fact that population of the district is more than the other districts where District Hospitals were setup.

3.3.2 Shortage of CHCs, PHCs and SCs

To ensure universal availability and accessibility of healthcare, the Indian Public Health Standards (IPHS) had set (2012) the norms for at each level which is mentioned at **Chart 1.1 of Chapter I**.

The required number of health facilities, availability and shortfall thereof against the three categories of healthcare infrastructure as of March 2019 is given in **Table 3.7**.

Table 3.7: Shortage of health facilities in the State

Health facility	Norms taken into consideration	Required as per Norms	Available	Shortfall (% of shortfall)
Sub-Centre (SC)	1 SC for 5,000 population	735	1005	-
Primary Health Centre (PHC)	1 PHC for every 30,000 population	122	116	06 (5)
Community Health Centre (CHC)	1 CHC for every 1,20,000 population	31	22	9 (29)

Audit noticed that there was a marginal shortage of Primary Health Centres and Community Health Centres in the State while the Sub-Divisional level hospitals¹² would make good the shortages in the category of Community Health Centres which registered a shortage of 29 *per cent*.

3.3.3 Blood bank facilities

As per IPHS, blood bank is one of the essential services that a District Hospital has to provide for. Blood bank should be in close proximity to pathology department and at an accessible distance to Operation Theatre (OT), Intensive Care Units (ICUs) and emergency & accident departments.

Audit noticed that all the test-checked DHs had blood banks and these were operational. As per the IPHS, blood storage centres are required to be established at the level of Community Health Centres (CHC) but the CHC, Mohanpur was running without such facility.

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. The State had shortages of 53 *per cent* of Medical Officers as per the IPHS norms. The Department was running an acute shortage of Medical Officers (33 *per cent*), dental surgeons (71 *per cent*) and paramedical staff (46 *per cent*) with reference to their own sanctioned strength, due to recruitment not done of sufficient number of health personnel in the last five years. Despite low spending on health sector the Finance Department did not approve recruitment of 150 doctors proposed by the Heath Department and neither did the Department pursue their proposals further. The State did not revise the sanctioned strength of the doctors despite expansion of health facilities in the State during last thirteen years. The State Government did not enforce the ‘Bond conditions’ on the UG/ PG medical students to overcome the shortages of doctors in the State, through contract appointments. The NHM could not recruit the specialist doctors as per the sanction accorded by the Government of India for the DHs in the State. The Health Department seems to have abdicated their responsibility to man their own health facilities with specialist doctors, by looking towards NHM funds for hiring specialist doctors on temporary basis. The Department had not made State service attractive enough for general/specialist doctors with incentivising measures and even the meagre NPA had not been revised since 2009 and continued at a paltry sum of ₹ 1,000 to ₹ 2,000 per month which doctors were reluctant to accept and preferred private practice, which was in conflict to government service.

The DHs had blood bank facilities but the CHCs did not have the benefit of blood bank facilities, thereby putting citizens to risk in emergency conditions.

¹² There are 12 Sub-divisional level hospitals in the State

Recommendations

- i. *The State Government may ensure revision of sanctioned strength and recruitment of adequate number of Medical Officers, nursing staff, para medical staff as per the IPHS norms in keeping with the expansion of health facilities in the State.*
- ii. *They may create separate cadre for specialist cadre doctors in the State with attractive remuneration package and benefits like housing, etc.*
- iii. *Non Practicing Allowance to doctors may be revised and made more remunerative.*

3.3.4 Equipment for health facilities

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

The State Government did not have Equipment Procurement Policy (EPP) or any standardised norms/ procedures for procurement of equipment for different health facilities nor had it adopted the IPHS norms for availability of equipment.

Audit observed that the types of equipment available in the test-checked DHs to perform various surgical and medical interventions differ from one DH to another. We noted acute shortage of medical equipment in the test-checked DH *vis-à-vis* IPHS norms as shown in **Table 3.8**.

Table 3.8: Availability of equipment *vis-à-vis* IPHS norms as on December 2019/February 2020

Category wise equipment	GBPH ¹³			DH, Dhalai			DH, Unakoti		
	Numbers required as per IPHS	Functional (in No.)	Non - functional /Incomplete Set	Numbers required as per IPHS	Functional (in No.)	Non - functional/ Incomplete Set	Required No.	Functional (in No.)	Non-functional /Incomplete Set
OT	61	256	-	39	21	0	39	41	0
Laboratory	184	568	-	119	85	10	119	68	5
Endoscopy	8	22	-	03	01	0	03	0	0
Immunisation				27	26	0	27	22	0
ENT	45	59	-	20	10	0	20	05	5
Cardiopulmonary				69	31	0	69	59	0
Labour & Neo-natal	102	142	-	57	45	0	57	27	0
Imaging Equipment	15	20	-	05	02	0	05	03	1
Total				339	221	10	339	225	11

Source: Joint physical verification of test-checked DH and SH

As can be seen from **Table 3.8**, none of the test-checked DHs was fully equipped with the essential equipment as per IPHS norms. The average percentage of availability of

¹³ GBP Hospital, Agartala and considered as 500 bedded DH and evaluated under IPHS norms

eight sampled categories of equipment ranged from *65 per cent* (DH, Dhalai) to *66 per cent* (DH, Unakoti) only.

Further, it was seen that the DHs could not provide particular category of service to the desired extent due to non-functional equipment. For example, imaging equipment (100 M.A. X-Ray machine) in DH, Unakoti was not functional. Similarly, five out of 10 available ENT equipment, *viz.*, (i) Ear Surgery Instrument Set, (ii) Micro Ear Set (iii) Examination instrument, *etc.* were either available in incomplete shape or remained not functional. Few laboratory equipment remained non-functional in both the DHs.

Audit also noticed that no trained manpower was available in the DH, Dhalai to run the Echocardiography machine while service of manual X-Ray machine was not utilised since installation in August 2016 due to non-availability of dark room, thereby depriving its benefits to patients.

The non/short availability of full range of equipment/ machines compounded by non-functional available equipment, impacted efficient and appropriate health care to be provided in the test-checked DHs. Resource availability was not a constraint.

Conclusion

Audit noted absence of Equipment Procurement Policy (EPP) or any standardised norms/ procedures for procurement of equipment for different health facilities. Thus, the types of equipment available in the test-checked DHs differ from one DH to another DH. There was shortage of full range of essential equipment in the test-checked DHs in comparison to the IPHS norms. The average percentage in terms of availability of eight sampled categories of equipment required by the two test-checked DHs ranged from *65 per cent* (DH, Dhalai) to *66 per cent* (DH, Unakoti) only. Available equipment like manual X-Ray machines, ear surgery equipment were not found functional in both the DHs.

Recommendations

- i. *The Department may ensure availability of full range of essential equipment in every hospital by increasing procurement, particularly in view of the increasing reliance on diagnostics for treatment of patients.*
- ii. *Proper maintenance may also be ensured to reduce the number of non-functional equipment and the downtime of the equipment for availability of full services to patients.*

3.4 Drugs management

In Tripura, centralised procurement of medicines for the Districts Hospitals is done in by the DHS, whereas Director, NHM is responsible for drug procurement for different national health programmes under NHM. The State Hospital (GBPH) procures its own medicines with the approved rate list of the DHS and by inviting tenders where rates are not available from the DHS. The DHS procures drugs through tendering

process based on the Essential Drugs List (EDL)¹⁴. Medicines purchased are first received at the State Central Medical Store at Agartala and from there the indenting healthcare facilities, lift the medicines.

3.4.1 Shortages in availability of essential drugs

All the DHs and State Hospital in the State have the copy of the Essential Drug List (EDL) prepared by the Directorate of Health Services, Government of Tripura. To ascertain the availability of essential drugs in the health facilities, Audit examined the availability of essential drugs in the selected hospitals as per the EDL prescribed by the Government of Tripura for the audit period. Results of scrutiny is summarised in **Table 3.9**.

Table 3.9: Availability of essential drugs in the selected SH and DHs

Hospital	No. of Essential Drugs (ED)	Average no. of drugs supplied during 2014-19	No. of drugs which were stock out frequently during 2014-19	Drugs not supplied during 2014-19
GBPH	333	59	47	274
DH, Dhalai	215	77	52	138
DH, Unakoti	215	81	74	134

Source: Information furnished by the test-checked hospitals

Thus, on an average, during the audit period, GBPH procured only 59 (18 *per cent*) medicines out of the 333 EDL medicines. Out of the procured medicines, 47 (80 *per cent*) were not available throughout the year and 25 (54 *per cent*) of the stocked out medicines were not available in the State Hospital for the period of 200 days and above on annual average. Detailed position is shown in **Appendix 3.3**.

Similarly, only 77 to 81 (36 *per cent* to 38 *per cent*) drugs were available during the audit period at the DHs against the EDL medicines prescribed for the DHs. Out of the available medicines, 52 to 74 (68 *per cent* to 91 *per cent*) medicines were not available throughout the year and 45 (85 *per cent*) of the stocked out medicines were not available in the DH, Dhalai for the period of 300 days and above, on annual average while 34 (46 *per cent*) of the stocked out medicines were not available in DH, Unakoti for the period of 200 days and above, on annual average (**Appendix 3.3**).

Audit findings were also supplemented by a survey conducted by the Ministry of Health.

While accepting the facts, Government stated (July 2020) that though only 18 *per cent* of the EDL medicines were procured by GBPH but some of the medicines were also supplied by the Central Medicine Store as well as National Health Mission, Tripura. They blamed the suppliers for non-supply of medicines. They added that some of the Cancer related medicines were also included in EDL which were not required by the hospital and these medicines enlarged the gap.

¹⁴ The Department prepared State Essential Drugs List containing 333 drugs in 2016-17 for State Hospital (GBPH) (including Regional Cancer Centre) and 215 drugs for the District Hospitals.

Conclusion

During 2014-19, out of the 215 essential drugs, 62 *per cent* to 64 *per cent* of the drugs were never supplied to the test-checked DHs, while 68 *per cent* to 91 *per cent* of the supplied drugs remained ‘stock out’ and not available for the full year. The serious non-availability of essential drugs in the test-checked DHs, compelled the patients to purchase the prescribed medicines from the open market out of their pocket. The State Hospital also witnessed a similar scenario where only 18 *per cent* of the essential drugs were available with the stock out rate of 80 *per cent*, thus compelling the patients to purchase the medicines from open market.

Recommendations

- i. *The State Government may ensure timely procurement of essential drugs and their supply to the DHs in order to avoid ‘stock outs’.*
- ii. *They may ensure that a formulary of drugs is prepared by each hospital on the basis of disease patterns and inflow of patients.*

CHAPTER IV

DELIVERY OF HEALTHCARE SERVICES

Chapter IV: Delivery of Healthcare Services

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

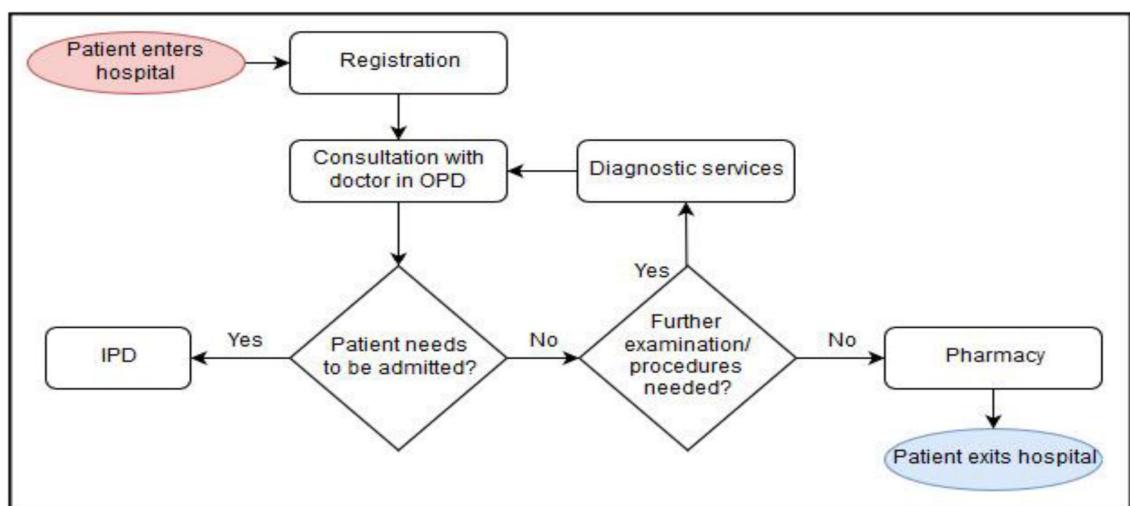
High-quality healthcare services involve the right care, at the right time, responding to the users' needs and preferences, while minimising harm and wastage of resources. Quality healthcare increases the likelihood of desired health outcomes. Audit observations on delivery of timely and quality healthcare 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

Out Patient Department (OPD) is the first point of contact between patient and hospital staff. OPD is considered as the window to hospital services and a patient's impression of the hospital begins at the OPD. The OPD not only provides diagnostic and treatment services for ambulant patient but also carries out the follow up study and treatment of patients after discharge of patients from the In-patient ward. It is essential to ensure that OPD services provide excellent services to patients.

To avail of services in a hospital, patients first register at the registration counter of the hospital. OPD doctors then examine them, 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 **Chart 4.1**.

Chart 4.1: Flow of patient services



The following paragraphs discuss Audit findings pertaining to OPD services like registration, consultation, waiting time and other basic OPD facilities/ services in the test-checked DHs.

4.1.1 Registration facility for OPD

Registration counter is the first point of contact with the hospital for a patient and is an important component of the hospital for patients and their attendants. NHM Assessor guidebook (Vol-I) 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 observed that in 2018-19 in the test-checked hospitals, the average daily patient load on a registration counter was as shown in **Table 4.1**.

Table 4.1: Patient Load in the Registration Counter during 2018-19

Name of the Hospitals	Number of counters	Total Number of OPD Patients	Average number of patients per counter per day ¹	Average number of patients per counter per hour ²
GBPH	05	391896	297	8
DH, Dhalai	01	69402	263	35
DH, Unakoti	01	38816	147	20
CHC, Mohanpur	01	52542	199	27
PHC, Mandwi	01	9468	36	5

Source: Hospital records

It is seen from **Table 4.1** that the average patient load per counter per hour during 2018-19 in the test-checked DHs was 20-35 patients. The average number of patients per hour per counter in DH, Dhalai and CHC, Mohanpur was more than norms of 20 patients whereas, the average patients per hour per counter was less than the norms in State Hospital (GBPH) and PHC, Mandwi.

Audit observed that for the out-patient services, signage system, OPD timings, OPD schedules were available in all the test-checked hospitals, CHC and PHC except in DH, Unakoti. OPD Schedules were displayed at the instance of Audit at DH, Unakoti.

e-Hospital is an initiative, with the software developed by the NIC³, to create interoperable Electronic Health Records (EHRs) of every citizens to be made available and accessible nationwide with objectives to facilitate continuity of care, better affordability and better health outcome & better decision support system.

Audit noticed that, patient registration in the e-hospital mode was rolled out in the State Hospital before the audit period while the facility was extended in the District Hospitals in August 2018. Only few mandatory details of the patients were being captured in the system during registration viz. name, father's name, age, gender, religion, etc. were found to have been captured. Audit further noticed that details regarding the course of treatment, diagnosis, issue of medicines, etc. was yet to be captured in the system.

¹ 391896/ 22 OPD days per month* 12 month* 5 Counters = 391896/22*12*5= 297

² OPD hours in Tripura is 9.00 AM to 4.30 AM i.e 7.5 hours

³ National Informatics Centre, Government of India

Government accepted (July 2020) the fact and stated that only mandatory information of patients were captured in the e-Hospital system during OPD registration and capturing other details including occupation of the patients was by and large complied during IPD registration wherein the patients undergo medical treatment, so as to enable establishment of correlation between occupational hazard and disease prevalence.

4.1.2 Patient load in OPD

The number of out-patients who attended the OPDs in the test-checked hospitals is as shown in **Table 4.2**.

**Table 4.2: Number of out patients in the test-checked hospitals
(in numbers)**

Year	No. of Out Patients in GBPH	Increase (+)/ Decrease (-) in %	No. of Out Patients in DH, Dhalai	Increase (+)/ Decrease (-) in %	No. of Out Patients in DH, Unakoti	Increase (+)/ Decrease (-) in %	No. of Out Patients in CHC, Mohanpur	Increase (+)/ Decrease (-) in %	No. of Out Patients in PHC, Mandwi	Increase (+)/ Decrease (-) in %
2015-16	375686	-	38518	-	15161	-	61937	-	7150	-
2016-17	337480	(-)10	46461	(+) 21	18946	(+)25	46050	(-) 26	7324	(+) 2
2017-18	323600	(-)4	52629	(+) 13	38105	(+) 101 ⁴	54821	(+) 19	8719	(+) 19
2018-19	391896	(+) 21	69402	(+) 32	38816	(+) 2	52542	(-) 4	9468	(+) 9

Source: Hospital records

The OPDs in the DHs were run by the specialist doctors, the OPDs in the CHC and PHC were managed by the Medical Officers. Though there was a substantial increase in the number of OPD patients in the DHs, number of specialist doctors remained the same while the number of Medical Officers in the CHC and PHC was also inadequate since the State was running with 33 *per cent* vacancy in the sanctioned post of Medical Officers which was also far below the norms as discussed in **Chapter II** of this report.

It was also observed that there is 32 *per cent* increase in patient OPD load in DH, Dhalai during 2018-19 and considering the increase in wait time at the registration counters and between registration and consultation with doctors, there is an urgent requirement for increase in the number of registration counters in DHs. 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.

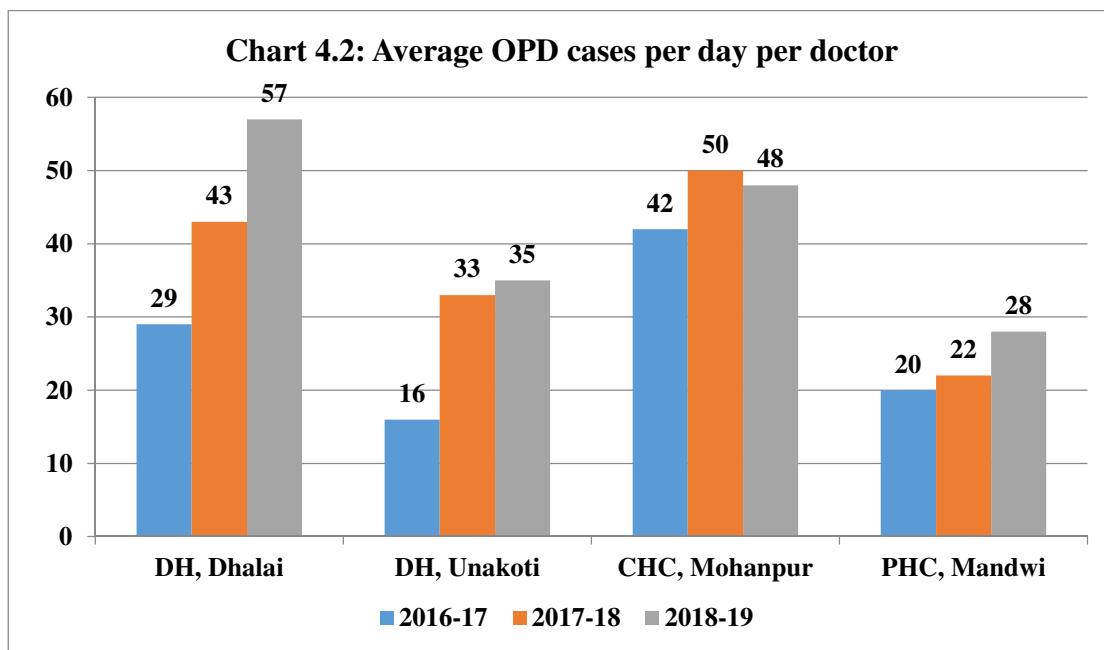
No reply was furnished by the Government (December 2020).

4.1.2.1 OPD cases per doctor

OPD cases per doctor is an indicator for measuring efficiency of OPD services in a hospital. Audit observed that due to substantial increase in the number of out-patients

⁴ Sudden increase in the number of OPD patients was due to the fact that in February 2017 the District Hospital Unakoti started its full-fledged operation, before that a good number of OPD services were provided by the Sub Divisional Hospital, Kailashahar

during 2016-17 to 2018-19 OPD cases per doctor in the test-checked hospitals/CHC and PHC increased significantly during 2016-19 as detailed in **Chart 4.2.**

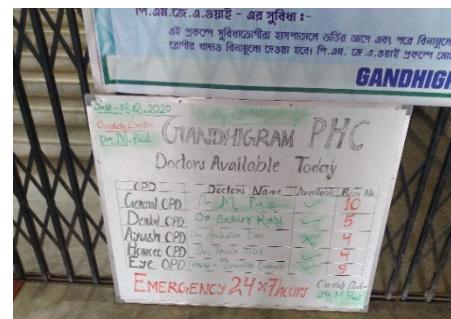


The average number of OPD cases per day per doctor increased during 2016-17 to 2018-19 in all the test-checked hospitals while in the case of DH, Dhalai. It was 57 patients per day per, doctor during 2018-19. Increase in the number of patients per doctor per day indicates less consultation time per patient.

No reply was furnished by the Government (December 2020).

4.1.2.2 The positive feature

Audit visited (8 February 2020) the PHC, Gandhigram for field verification of beneficiaries under the Janani Sishu Suraksha Karyakram (JSSK) and noticed the name of the doctors and OPD timings including the room number were displayed on real time basis at the OPD registration counter which is acknowledged in audit and reported for consideration and adoption for all the hospitals in the State.



Photograph 4.1: OPD arrangement at PHC, Gandhigram

4.1.2.3 Other basic facilities in OPD

Audit observed the following shortcomings in provisioning of basic facilities such as drinking water and toilet facilities in the OPD premises of the test-checked hospitals/CHC and PHC, as shown in **Table 4.3.**

Table 4.3: Non-availability of basic facilities in OPD premises

Facilities	Facilities available in the hospital				
	GBPH	DH, Dhalai	DH, Unakoti	CHC, Mohanpur	PHC, Mandwi
Drinking water facility	Yes	Yes	No	Yes	Yes
Separate toilets for male and female	Yes	Yes	No	No	Yes

Source: Information provided by the concerned DHs, CHC and PHC

It would be seen that separate toilet for male and female for OPD patients was not available in the DH, Unakoti and the CHC, Mohanpur. No drinking water facility was also available in the DH, Unakoti. However, Audit noticed on physical verification that in GBP Hospital drinking water facility and separate toilets for male and female were available.

No reply was furnished by the Government (December 2020).

4.1.3 Patient rights and grievance redressal

Grievance redressal is necessary in all organisations to investigate the reason for dissatisfaction of client and to obtain a speedy resolution to the problem.

Further, for effective redressal of grievances of patients, NHM Assessor's Guidebook envisaged a mechanism for receipt of complaints, registration of complaints 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. The records of grievance redressal were, however, not maintained by any of the test-checked hospitals during the period covered in audit. Thus, in the absence of such records, it could not be verified whether these hospitals properly attended to the complaints of the patients.

The Government of Tripura also instituted an on-line Public Grievance Redressal mechanism system where the Health and Family Welfare Department is also a part but due lack of awareness among the common people, the system remained an ineffective tool for grievance redressal.

No reply was furnished by the Government (December 2020).

Conclusion

Though there was a substantial increase in the number of OPD patients in the DHs, the number of specialist doctors remained the same due to acute shortage of specialist doctors in the State. The number of Medical Officers in the CHC and PHC were also inadequate since the Department was running with 33 *per cent* vacancy in the sanctioned post of Medical Officers. This resulted in increase in patient load per doctor in OPDs and increased waiting time for the patients to visit the doctors in the OPDs.

There was shortage of basic facilities in the OPD in the test-checked hospitals leading to inconvenience to patients and attendants.

Records of grievance redressal were not maintained by any of the test-checked hospitals.

Recommendations

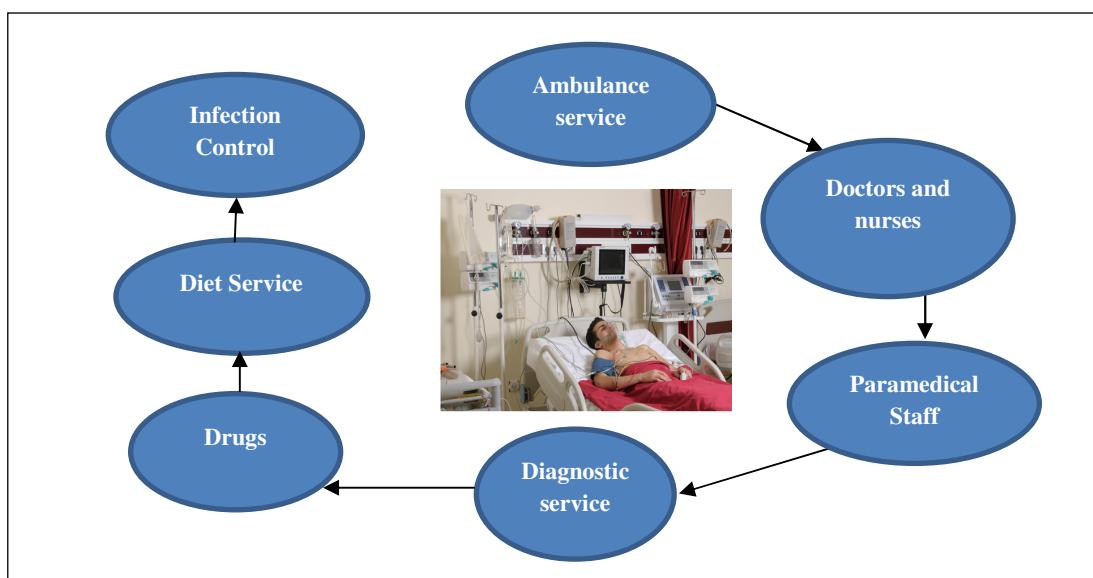
- i. Doctors strength may be increased considering the patient load and average OPD cases per doctor.
- ii. Grievance redressal mechanism needs to be streamlined in such a way that it becomes easily accessible to the common people with assured action on the grievance.

4.2 In-Patient Department (IPD)

4.2.1 Introduction

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 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: Model process flow in the IPD of a hospital



Availability of doctors, nurses, essential drugs/equipment, dietary services and patient safety along with performance evaluation are included in this Chapter.

4.2.2 Availability of in-patient services

As per the IPHS guidelines, DH should provide specialist in-patient services pertaining to General Medicine, General Surgery, Ophthalmology, Orthopaedics, Accident and Trauma, Burn Cases, etc. Audit observed that the all the required services were not available in the test-checked DHs and SH as shown in **Table 4.4**.

Table 4.4: IPD Service availability in the DHs and State Hospital

Name of the Hospital	Accidental Trauma	General Medicine	General Surgery	Ophthalmology	Orthopaedics	Ear Nose & Throat	Obstetrics & Gynaecology	Geriatric Service	Psychiatry
GBP Hospital	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
DH, Unakoti	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No
DH, Dhalai	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No

It was observed that accidental trauma as well as Psychiatry services were not available in the DHs while the facility for Geriatric Service was not available in the State Hospital as well as in the DHs too.

4.2.2.1 In-patient services in CHC and PHC

Service availability in the test-checked CHC and PHC is given in **Table 4.5** with reference to the IPH Standard.

Table 4.5: Availability of IPD facilities in the selected CHC and PHC

Name of the service to be provided as per IPHS	Availability of services	
	CHC, Mohanpur	PHC, Mandwi
General Medicine	Not available	Not applicable
General Surgery	Not available	Not applicable
Obs. & Gynae	Not available	Not applicable
Paediatrics	Not available	Not applicable
Dental Service	Available	Available
Ayush Service	Available	Available

The CHCs and PHCs in the State were managed by the Medical Officers and no specialist services were available in those facilities. General medicine service and Normal Vaginal Deliveries (NVD) were performed by the CHCs in the State while the PHCs were offering basic medical services. Absence of Medical Officer/Specialist for Obstetrics & Gynaecology and Paediatrics in CHC/PHC is a matter of concern as the patients would have to travel long distance for routine or complicated cases relating to maternal and child health. The Department should address the critical shortages at the local level of health service delivery.

No reply was furnished by the Government (December 2020).

4.2.3 Availability of human resources

4.2.3.1 Doctors and nurses

IPHS envisage that doctors and nurses should be available round the clock in IPD to provide due medical care to the in-patients. Availability of doctors, nurses and paramedics during 2018-19 and resultant shortage and excess of doctors, nurses and paramedics in the DHs, CHC and PHC is shown **Table 4.6**.

Table 4.6: Availability of doctors, nurses and paramedics in the selected State Hospital DHs, CHC and PHC

Name of the Hospital	Doctors						Nurses			Paramedics		
	Norms		Available		Shortage		Norms	Avail-able	Short-age	Norms	Avail-able	Short-age
	Spec- ialist	MO	Spec- ialist	MO	Spec- ialist	MO						
GBP Hospital	44	24	155	105	(+) 111	(+) 81	327	592	(+) 265	100	264	(+) 164
DH, Dhalai	20	14	14	17	6	-	90	47	43	42	18	24
DH, Unakoti	20	14	15	12	5	2	90	49	41	42	26	16
CHC, Mohanpur	06	04	00	10	6	-	10	12	0	11	08	03
PHC, Mandwi	00	02	00	06	0	-	04	06	0	03	02	01

DH, Unakoti was running with 21 *per cent* shortage in the doctors' cadre while DH, Dhalai was running with 57 *per cent* shortage in the cadre of paramedics. There was nearly 50 *per cent* shortage in both the hospitals in the cadre of Nursing Staff. Non-availability of adequate number of doctors and the support staff adversely affected the service delivery which are discussed in the succeeding paragraphs.

In respect of the test-checked CHC and PHC, no specialist doctor was posted in the CHC, Mohanpur and Medical Officers were posted in their place and in PHC, Mandwi, four doctors were posted in excess.

No reply was furnished by the Government (December 2020).

4.2.3.1 Rosters for doctors and nurses

To ascertain the availability of doctors for providing various indoor health care services in IPD, Audit requisitioned the roster of doctors. DH, Unakoti and the PHC, Mandwi could not produce the rosters for doctors as these were not maintained while the Dhalai and the CHC, Mohanpur produced the same. Thus, the availability of doctors could not be verified.

Further, Nursing Council of India (NCI) recommends one nurse per six beds in the general ward of a DH. The details of bed load⁵ per staff nurse as per the hospital bed strength and availability of nursing staff in the test-checked hospitals are given in **Table 4.7**.

⁵

Name of the Facility	Bed Strength	Availability of Staff Nurse (SN)	Average SN per bed per Shift
DH, Dhalai	150	49	10
DH, Unakoti	150	47	10
CHC, Mohanpur	20	12	5
PHC, Mandwi	10	6	5
AGMC & GBP	726	592	3.5

Table 4.7: Average number of beds per nursing staff

Name of the Hospital	Total number of beds	Total number of Staff Nurse posted	Average number of beds per Staff Nurse
AGMC & GBP	726	592	3.67
DH, Dhalai	150	47	9.57
DH, Unakoti	150	49	9.18
CHC, Mohanpur	20	12	5
PHC, Mandwi	10	6	5

Thus, NCI norms were not followed in both DHs in respect of nursing care.

No reply was furnished by the Government (December 2020).

4.2.4 Operation Theatre services

Operation Theatre (OT) is an essential service that is to be provided to the patients. IPHS guidelines prescribe OTs for elective major surgery, emergency services and ophthalmology/ENT (ear, nose and throat) for district hospitals having bed strength of 101 to 500. Availability of OTs required for various services is shown in **Table 4.8**.

Table 4.8: Availability of OT services in the selected health facilities

Name of the health facility	General OT	Emergency OT	OT for ophthalmology/ENT
DH, Unakoti	Yes	No	Yes
DH, Dhalai	Yes	No	Yes
AGMC & GBPH	Yes	Yes	Yes
CHC, Mohanpur	No	No	No
PHC, Mandwi	No	No	No

There was no emergency OT in the two DHs and CHC/PHC while the CHC/PHC also did not have general OT as well as OT for Ophthalmology/ENT.

No reply was furnished by the Government (December 2020).

4.2.4.1 Analysis of surgeries performed by the doctors in SH and DH

As per NHM Assessor's Guidebook, surgeries performed per surgeon is an indicator to measure efficiency of the hospitals. Analysis of the records of surgeries conducted by the selected facilities for the last three years (2016-17 to 2018-19) indicated substantial variation in the number of major surgeries per surgeon in the test-checked hospitals as shown in **Table 4.9**.

Table 4.9: Major and minor surgeries per surgeon⁶

Name of the health facilities	Year	Major surgeries performed per surgeon				Minor surgeries performed per surgeon		
		General	Lower Segment Caesarean Section	Ear Nose & Throat	Orthopae-dics	General	Ear Nose & Throat	Orthopae-dics
AGMC & GBP Hospital	2016-17	62	215	35	66	68	22	361
	2017-18	86	246	36	82	84	31	462
	2018-19	96	252	41	102	78	43	340
DH, Dhalai	2016-17	NIL	68	6	NIL	Minor OT service was not available in the DH and no records were available		
	2017-18	NIL	18	11	NIL			
	2018-19	100	26	19	52			
DH, Unakoti	2017-18	41	106	1	28			
	2018-19	14	92	1	37			

It was seen that surgeries performed by the surgeons in the State Hospital were much higher than the DHs. No Ortho and General surgeries were performed in the DH, Dhalai during 2016-17 and 2017-18 due to non-availability of doctors in the relevant discipline. Major component of surgeries performed by the doctors in the DHs was LSCS⁷. Reason for non-conducting of surgery was due to non-availability of surgeons in the relevant discipline.

The surgeries performed by four District Hospitals⁸ in the State, as submitted to audit, are represented in **Table 4.10**.

Table 4.10: Different surgeries performed during 2014 to 2019

Name of Health facilities	Lower Segment Caesarean Section	General Surgery	Orthopaedics	Others	Total
DH, North	617	0	0	10	627
DH, Dhalai	265	100	52	63	480
DH, Unakoti	596	55	65	02	718
DH, Gomati	4227	518	454	419	5618
Total	5705	673	571	494	7443

Source: OT register of DHs, North, Dhalai, Unakoti and information furnished by the DH, Gomati

From **Table 4.10** it appears that:

- Out of total 7,443 surgeries done under the four DHs, 5705 surgeries (77 Per cent) pertained to C-Section surgeries, 673 (nine per cent) pertained to General surgeries, 571 (eight per cent) pertained to Orthopaedics surgeries and 494 (six per cent) pertained to others surgeries.
- In the selected DHs, out of total 480 and 718 surgeries done under DH, Dhalai and DH, Unakoti, 265 and 596 surgeries i.e 55 per cent and 83 per cent respectively, pertained to C-Section surgeries.

⁶ For the sake of comparison three years data were used in the table, while DH, Unakoti commenced service from February 2017 and two years data are taken into in **Table 4.9**

⁷ Lower Segment Cesarean Section Surgery

⁸ Out of six DHs in the State

- In the selected DHs, 100 and 55 surgeries respectively, pertained to General surgeries and 52 and 65 surgeries respectively, pertained to Orthopaedic surgeries.

Thus, due to non-availability of surgeon and performing of less number of major surgeries in the DHs indicated that patients were deprived from treatment in DHs and compelled to go either to the private clinics or higher referral centre, the State Hospital at the Capital. The Department could not post the required number of General Surgeons, Orthopaedic Surgeons, Anaesthetists as per the IPHS norms as revealed from the test-checked DHs and information submitted by other two DHs⁹. Analysis of surgery details of four District Hospitals showed that the only regular surgeries available with the hospitals were Lower Segment Caesarean Section Surgery (LSCS). The DH, Dhalai did not even perform a single General surgery and Orthopaedic surgery during 2014-15 to 2017-18. Audit noticed that the District Hospitals in the State were mostly providing maternity surgical procedures. The year wise details of surgeries performed by two District Hospitals is given in **Appendix 4.1**.

Table 4.11 would show that 46 *per cent* to 54 *per cent* AB-PMJAY¹⁰ beneficiary did not prefer surgical procedure, other than LSCS and Obstetrics, in the DHs and moved to the State Hospitals which indicated that non-availability of desired services in DHs. This in turn, increases the load of the State Hospitals for the surgical procedures which were supposed to be handled by the DHs being the secondary level health care facilities.

Table 4.11: Preference of people for surgery under AB-PMJAY in the State Hospitals

Period	Name of the District from where the patients originate	People undergone number of surgeries	Number surgeries where DH was supposed to be capable	Number of cases people preferred GBP and IGM Hospitals	Percentage of people not taken the service of DHs
October 2018 to March 2020	Dhalai	138	91	42	46
	Unakoti	117	78	42	54

Source: AB-PMJAY data

Analysis of data and information furnished by DHs, Dhalai and Unakoti revealed that in the DH, Dhalai no General Surgeon and Orthopaedic Surgeon were posted upto August 2018 and hence no General and Orthopaedic surgeries were done in the DH, Dhalai during that period. During 2014-19, 13,531 patients were admitted in the

⁹ DH, North Tripura and DH, Gomati

¹⁰ Ayushman Bharat –Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), launched in September 2018, is the largest health assurance scheme in the world which aims at providing health cover for secondary and tertiary care hospitalisation to poor and vulnerable families that form the bottom 40 *per cent* of Indian population (Source: <https://pmjay.gov.in>).

Surgical Ward in both the hospitals while only 220¹¹ surgeries were performed and 2550 patients were either referred to the State Hospital (AGMC& GBPH) or Left the Hospital Against Medical Advice (LAMA), Absconded from the Hospital or passed away. The Referred Out, LAMA, etc. were 11 times more than the surgery performed by these hospitals. Position is given in **Table 4.12**.

Table 4.12: Showing the referral and other status of Surgical Ward of selected DHs

Name of the hospital	Name of the ward	Period	Total number of new admissions	Referred out	Patient became LAMA	Patient Absconded	Number of death cases
DH, Dhalai	Surgical	2014-19	8509	1119	843	70	45
DH, Unakoti	Surgical	2017-19	5022	357	63	27	26
Total			13531	1476	906	97	71

Source: Records of the Surgical Ward of the Hospitals

It was also noticed that both the hospitals did not maintain any record as to how many patients were referred out-right without being admitted in the hospital due to non -availability of surgeon in the hospital or absence of major surgical procedure. Patient survey (February 2020) of 40 new mothers in the Maternity Ward of the GBPH revealed that 21 patients took services from the State Hospital who hailed from other districts¹² where the District Hospitals exist and which were mostly engaged in providing maternity services to the patients. This resulted in additional patient load on the State Hospital which could have been avoided with the provision of quality service at the DH at the respective districts.

No reply was furnished by the Government (December 2020).

4.2.5 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. None of the test-checked hospitals including the State Hospital maintained the OT Procedure and OT Safely checklist against the patients who undergone surgical procedure during the audit period. However, the Maternity wing of the DH, Dhalai introduced the prescribed procedure in the form of OT Booklet from June 2019 which is acknowledged in audit and recommended for adoption by all the hospitals in the State where OT procedures are done.

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 and the State Hospital.

No reply was furnished by the Government (December 2020).

¹¹ From **Table 4.10**, General Surgery: 155 and Others: 65, Total: 220

¹² Khowai, Gomati, Dhalai

4.2.6 Availability of ICU services

Intensive care services in a District Hospital are essential for providing minimum assured services as per the IPHS for DHs having more than 100 beds.

Audit observed that none of the selected DHs had the ICU facility for the patients. Thus, in the absence of ICU facility, patients approaching District Hospitals despite being in an emergent condition were likely to be referred to higher facility. However, in the State Hospital, Medical ICU (10 beds), Respiratory ICU (four beds), Pediatric ICU (six beds), Neo-natal ICU (10 beds), Anesthesiology ICU (five beds), PACU ICU (three beds) were available.

4.2.6.1 Non-utilisation of ICU infrastructure

Audit noticed that ICU infrastructure¹³ had been created in the DH, Unakoti in the year 2014-15 at cost of ₹ 16.39 lakh but lying idle due to non posting of adequate man power to run the unit.



Photograph 4.2: ICU infrastructure lying idle in the DH, Unakoti

4.2.6.2 Non-functional ICUs beds and equipments in the State Hospital

Audit noticed that only two beds of the Neo-natal ICU and Paediatric ICU out of 16 Beds in the GBP Hospital were functional since defibrillators/ multipara monitors attached to the ICU instruments for monitoring the vital indicators of the patient were non-functional. Audit further noticed (February 2020) that 10 defibrillators/ multipara monitors valued ₹ 64.96 lakh procured for Trauma Centre of the Hospital, in 2018-19, were lying idle in the Store due to non-operationalisation of the Neuro OT.

No specific reply was furnished (July 2020) by the Government regarding non-functioning of 14 beds in the Neo-natal ICU and Paediatric ICU and its plan for making these beds functional. As regards non-utilisation of 10 defibrillators/

¹³ ICU Beds Height Adjustable: 10 Nos., Fowler Bed with tilt: 10 Nos., Bedside Locker: 10 Nos., Over bed table Height Adjustable: 10 Nos., Attendant bed: 10 Nos.

multipara monitors it was stated that these were rationally utilised by the hospital to manage COVID 19 situation in the State.

4.2.7 Emergency and Trauma Care service.

As per IPHS norms, 24 x 7 operational emergency with dedicated emergency room shall be available with adequate man power in each DH. However, none of the test-checked DH had an Emergency OT. Emergency cases were referred to the higher referral centre for treatment.

Trauma care centre in the DH, Dhalai was lying idle since 2013-14 even after an expenditure of ₹ 3.06¹⁴ crore due to non-provision of required man power. Trauma care is available only in the State Hospital in the State at Agartala.

4.2.7.1 Non-availability of trauma care in the entire stretch of the National Highway

The National Highway¹⁵ in the State always witnesses heavy vehicular movement at high speed with the increasing risk of Road Traffic Accident (RTA) cases. Audit noticed that in the entire stretch of 306 KM road which falls in the State of Tripura, the State Government failed to set up a trauma care centre though a good number of District Hospitals¹⁶, Sub Divisional Hospitals¹⁷ and Community Health Centres¹⁸ exist on the National Highway or very close vicinity to the National Highway and all the RTA cases were referred to the State Hospital at Agartala with the minimum distance of 128 KM and maximum 178 KM from the two farthest ends of the national highway, causing valuable loss of time for treatment of the RTA victims.

Thus, entire stretch of National Highway in the State till Agartala lacks trauma care facility and depends only on the State Hospital which involves lot of time to reach, in turn risking with the life of the victims. State did not even have centralised emergency ambulance service till March 2020.

No reply was furnished by the Government (December 2020).

4.2.8 Triaging of patients and average turn-around time

Only a limited number of patients admitted in the emergency have life endangering, medically urgent conditions demanding to be identified and given treatment on priority. NHM Assessor's Guidebook prescribes standard treatment protocol for triaging¹⁹ of patients getting admitted in an emergency department. Facility for triaging of patients in emergency care is available only in the State Hospital in the State and no triaging facility exists in any of the test-checked hospitals and no Standard Operating Procedure (SOP) was made available by the DHS in this regard to those hospitals.

¹⁴ Building ₹ 0.90 crore, equipment ₹ 2.16 crore

¹⁵ National Highway No.8 connecting Sabroom to Guwahati via Shillong

¹⁶ North, Dhalai, Gomati and South Tripura

¹⁷ Teliamura, Bishalgarh and Sabroom

¹⁸ Kumarghat, Manu, Jirania

¹⁹ The process of sorting people based on their need for immediate medical treatment

No reply was furnished by the Government (December 2020).

4.2.9 Diagnostic and other support services

Efficient and effective diagnostic services, both radiological and pathological, are amongst the most essential health care facilities for delivering quality treatment to the public, based on accurate diagnosis.

Significant audit findings are discussed in the succeeding paragraphs.

4.2.9.1 Availability of radiology services

Indian Public Health Standards (IPHS) 2012, prescribe services for the hospitals (X-Ray, Ultrasonography and CT scan²⁰) and for CHCs (X-Ray and Ultrasonography).

Audit, however, observed that in none of the test-checked hospitals/CHC all types of prescribed radiology services were available during 2014-19. The position of availability of radiology services is given in **Table 4.13**. As regards the State Hospital (GBPH), all the radiology services, *viz.* X-Ray, Ultrasonography, CT Scan and MRI were available. Neither service delivery standards nor any Citizen Charter was prepared by the Government. Thus, evaluation of service delivery could not be assessed in audit.

Table 4.13: Availability of various types of radiology services

Nature of Radiology Services	Whether the service is required as per IPHS	Service available in the DH/CHC		
		DH, Dhalai	DH, Unakoti	CHC, Mohanpur
X-Ray	Yes	Yes	Yes	Yes
Dental X-Ray	Yes	No	No	No
Ultrasonography	Yes	No	Yes	No
CT Scan	Yes	Yes	No	Not Required

Absence of radiology services in the above mentioned hospitals was mainly due to non-availability of required radiology equipment and/or skilled human resources. The shortages of equipment is not due to lack of resources as funds remained unutilised under this head (reference **Paragraph 2.1.2 of Chapter-II**). What remains a matter of concern is that equipment were available but these were lying idle due to non-posting of technicians.

Table 4.14: Reasons for non-availability of radiology services

Nature of Radiology Service	Name of the DHs/CHC	Reason for non-availability		
		Lack of equipment	Lack of technician	Any other reason
X-Ray	DH, Dhalai	Service available		
	DH, Unakoti	Service available		
	CHC, Mohanpur	Service available		
Dental X-Ray	DH, Dhalai	Yes		
	DH, Unakoti	Yes		

²⁰ Desired for the hospitals having bed strength of more than 100 beds

Nature of Radiology Service	Name of the DHs/CHC	Reason for non-availability		
		Lack of equipment	Lack of technician	Any other reason
Ultrasonography	CHC, Mohanpur	Yes		
	DH, Dhalai		Yes	
	DH, Unakoti	Service available		
CT Scan	CHC, Mohanpur	Yes	Yes	
	DH, Dhalai	Service available		
	DH, Unakoti	Yes	Yes	
	CHC, Mohanpur	Not Required		

It was observed from **Table 4.14** that though dental services were required in the DH, Dhalai, Unakoti and CHC, Mohanpur, there was no dental X-Ray machines in those health centres. Thus, short availability of the full range of X-Ray equipment impacted the efficiency and appropriateness of level of care to be offered in the hospitals.

Government stated (July 2020) that in respect of DH, Dhalai digital X-Ray, ultrasonography and CT scan service were available in the hospital and dental X-Ray service was not available due to non availability of dental X-Ray machine.

No reply was furnished in respect of other hospitals (December 2020).

4.2.9.2 AERB licenses 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. It was noticed that the units were having the required licenses from the AERB. However, radiation norms were not followed by any of the test-checked DHs and the CHC which is a major concern for the Radiology Technician and the patients who visit hospitals due to hazards expose of radiation for longer duration.

4.2.9.3 Institutional arrangements for pathology services

The pathology services in the hospitals as well as in CHCs were provided through in-house laboratories up to May 2017. However, due to non-availability of facilities in hospitals for providing the full range of pathology services, the Department started (June 2017) engaging private service vendors for providing high-end diagnostic services in the hospitals. Under this arrangement, certain high-end pathological services were outsourced²¹ in hospitals during June 2017 for a period of three years.

4.2.9.4 Availability of pathology services

IPHS prescribed 29 to 70 types of pathological investigations under five categories, viz., Clinical pathology (18 to 29 tests), Pathology (one to eight tests), Microbiology (two to seven tests), Serology (three to seven tests) and Biochemistry (five to 19 tests) to be carried out in the district-level hospitals and CHC/PHC.

Scrutiny of records disclosed that the full range of desired pathological investigations were not available despite outsourcing of some services to private service provider, in any of the test-checked hospitals/CHC. The position of availability of investigation

²¹ The private outsourcing partner provided services only in District Hospitals

facility in the hospitals and CHC is summarised in **Table 4.15** to **Table 4.17**.

Table 4.15: Availability of pathology services as on 31 March 2019 in the selected DHs

Types of pathology services	No. of tests prescribed as per IPHS norms	Tests done in DH, Dhalai				Tests done in DH, Unakoti			
		Private Service Provider	Service owned by the DH	Done altogether	% of tests not done	Private Service Provider	Service owned by the DH	Done altogether	% of tests not done
Clinical Pathology	29	8	25	27 ²²	7	8	12	17	41
Pathology	8	3	0	3	63	3	0	3	63
Microbiology	7	2	4	4	43	2	0	2	71
Serology	7	2	4	6	14	2	2	4	43
Biochemistry	21	10	10	13	38	10	12	13	38
Total	72	25	43	53	26	25	26	39	46

Table 4.16: Availability of pathology services in CHC, Mohanpur as on 31 March 2019

Types of pathology services	No. of tests prescribed as per IPHS norms	No. of tests done in Mohanpur CHC	Percentage of tests not done
Clinical Pathology	18	5	72
Pathology	1	0	100
Microbiology	2	0	100
Serology	3	3	0
Biochemistry	5	1	80
Total	29	9	69

Table 4.17: Availability of pathology services in PHC, Mandwi as on 31 March 2019

Types of pathology services	No. of tests prescribed for PHC as per IPHS norms	Tests done in PHC, Mandwi	Percentage of tests not done
Essential Lab. Services	20	12	40

Audit observed that in DH, Dhalai the facilities for 26 *per cent* of the essential tests prescribed under the IPHS were not available while 46 *per cent* prescribed tests were not available in DH, Unakoti. Despite engaging private service providers, pathology services were not fully available as prescribed in IPHS, depriving the public from availing evidence based health care in the DHs. No private service provider was engaged in CHC, Mohanpur and PHC, Mandwi for pathology services. 69 *per cent* and 40 *per cent* of the prescribed tests were not available with the CHC, Mohanpur and PHC, Mandwi, respectively.

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.

Government stated (July 2020) that step was taken to complement free Pathology services by engagement of private agency under National Free Diagnostic Initiative.

²² Some tests are commonly done by the private service provider as well as by the DHs

4.2.9.5 Non-availability of essential resources- equipment and human resources for pathology services

IPHS prescribe 25 to 71 types of pathology equipment for the hospitals and CHCs depending upon their bed capacity. Besides, nine types of equipment were also prescribed for the PHC. Shortfall was noticed in all the facilities and the shortfall ranged between 36 *per cent* to 75 *per cent* when compared with the IPHS and the maximum shortage was noticed in respect of the DH, Unakoti as given in **Table 4.18**.

Table 4.18: Requirement of equipment and availability

Name of the health facility	Types of equipment required as per norms	Types of equipment available	Shortfall (per cent)
DH, Dhalai	71	34	37 (52)
DH, Unakoti	71	18	53 (75)
CHC, Mohanpur	25	16	9 (36)
PHC, Mandwi	09	05	4 (44)

Lab Technicians (LTs) are the key personnel for in-house laboratories and are responsible for taking samples and carrying out all prescribed pathological investigations. However, out of the four test-checked hospitals, CHC and PHC shortfall in LTs ranged between 44 *per cent* to 50 *per cent* when compared with the IPHS. The Department did not prescribe any sanctioned strength of LTs for the health facilities. **Table 4.19** gives the position.

Table 4.19: Availability and shortage of Laboratory Technicians

Name of the facility	Lab. Technicians		
	IPHS norms	Availability	Shortfall (per cent)
DH, Dhalai	9	9	0 (0)
DH, Unakoti	9	5	4 (44)
CHC, Mohanpur	2	1	1 (50)
PHC, Mandwi	1	1	0 (0)

Government accepted (July 2020) the audit observations in respect of DH, Dhalai. No reply was furnished in respect of other hospitals (December 2020).

4.2.9.6 Quality assurance of pathology services

Quality testing of in-house pathological services with the External Quality Assurance (EQA) for the diagnostic tests has commenced from February 2019 for both the test-checked DHs. Samples are sent to the CMC, Hospital, Vellore for EQA. District Hospitals, Unakoti and Dhalai sends samples for nine to 10 tests every month for EQA. However, no adverse reporting by the EQA was noticed in audit. At the same time, no recorded evidence of periodic calibration of laboratory equipment was noticed in audit in respect of the hospitals, CHC and the PHC.

Government stated (July 2020) that Laboratory services with the EQAs for tests had been commenced from February 2019 in respect of DH, Dhalai.

4.2.9.7 Waiting time and turn-around time

Time taken in receiving samples from the patients after being prescribed by the doctors, for investigations *i.e.* Waiting Time (WT) and time taken in getting the

investigation done and reporting the results to the patients i.e. Turn-Around Time (TAT) reflect overall efficiency of the diagnostic services in terms of patient's satisfaction. The doctors issue the test indent forms to the patients prescribing the radiology and pathology investigations after which the patients register themselves in the concerned department/section for giving the required samples/tests.

Audit observed that the test-checked hospitals/CHC and PHC did not record the date of issue of test indents in the registration registers, sample collection date and report issue dates during 2014-15 to 2018-19. Therefore, the time lag between the two events *viz.* recommendation for investigation by the doctor and taking of sample from the patients was not ascertainable in audit. Besides, no records were maintained in any of the test-checked hospitals/CHCs regarding TAT in respect of radiological diagnosis tests.

No reply was furnished by the Government (December 2020).

Conclusion

Full range of IPD services and facilities were not available in all the sampled medical facilities. Even the basic services related to Obstetrics & Gynaecology were not available in the sampled CHC which indicates that the State Hospital would be burdened with even routine medical cases. The primary reason for non-availability full range of IPD services was shortage of specialist doctors, Medical Officers, nurses, paramedics in the health centres. In absence of rosters, the attendance of Medical Officers in the DH, Unakoti and PHC, Mandwi could not be verified.

Emergency OT in the sampled DHs were not available adding to the woes of the patients. Due to absence of specialists in the DHs, there was a heavy burden on the specialists in the State Hospital who had to perform routine surgeries referred from the secondary health facilities in the districts. Lack of ICU facilities in the sampled district hospitals further increased the emergency patient load in the State Hospital. The ICU infrastructure built at DH, Unakoti remained idle due to non-posting of manpower while 14 out of 16 beds in Neo-natal and Paediatrics ICU in the State Hospital were not functional due to deficiencies in functioning of critical equipment. This not only led to waste of resources but also deprived appropriate care to the critical patients. The trauma care centre in DH, Dhalai was lying idle since 2013-14, despite incurring an expenditure of ₹ 3.06 crore due to non-posting of specialist. What is also alarming is that trauma care facility were not available along the entire stretches of the National Highway connecting Tripura to Assam though there were health facilities of DHs/CHCs available on the stretch. Resultantly all such accident cases had to be referred to the State Hospital, which put the patients to risk in emergency situations. There was persistent shortage of diagnostic equipment and technicians in the DHs. Besides, pathological services were constrained due to deficiencies in trained staff and equipment.

Recommendations

- i. *The Government may provide basic medical facilities related to Obstetrics & Gynaecology in CHCs and PHCs so that services are available locally to patients as per IPHS norms.*
- ii. *Adequate human resources, equipment and consumables should be provided as per norms to all the health care facilities to carry out the essential diagnostic tests as per the IPH Standards.*
- iii. *The ICU infrastructure built at DH, Unakoti and Trauma care centre in DH, Dhalai may be made functional on priority. Trauma care services be made available in DHs as per norms so that patients are not put to risk and inconvenience in emergency situations.*

CHAPTER V

SUPPORT SERVICES

Chapter V: 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

Introduction

The ancillary support services in a hospital management are crucial to the functioning of a hospital and without their adequate support a hospital is incapable of imparting services to its patients.

Management of support services in the selected hospitals are discussed in the succeeding paragraphs.

5.1 Management of drugs and consumables

The Government of Tripura does not have any drug policy. The objective of drug policy is to improve access to essential drugs by making them available and affordable, to ensure the safety, efficacy and quality of drugs and to promote their rational use. The Directorate of Health Services, Government of Tripura prepares Essential Drug List (EDL) for the hospitals in the State including the State Hospital, District Hospitals, Sub-Divisional Hospitals, CHCs and PHCs, which was updated in 2016-17 and again in 2019-20. As per the EDL of 2016-17, 215 drugs were prescribed for District Hospitals and 333 drugs were prescribed for State Hospital.

The DHS, Government of Tripura centrally procures medicines for the DHs and SDHs in the State while the Directorate of Family Welfare and Preventive Medicine (DFWPM), Government of Tripura procures medicines for the CHCs, PHCs and SCs in the State. The DHS invites tenders for procurement of medicines and prepares approved rate after the tendering process which is used by the DHS, DFWPM and the State Hospital for procurement of medicines as per the requirement. The State Hospital (GBPH) also procures medicines and consumables of its own, inviting local tenders as well as at the approved rates of the DHS, Government of Tripura.

The Department identify the requirement of necessary drugs and consumables through the annual indents from the respective hospitals and compiles centrally at the Central Medicine Store (CMS) at Agartala before undertaking the tendering process. There was no systematic approach for assessment of actual requirement since the medicines and consumables prescribed by the doctors to the OPD and IPD patients were not recorded either electronically or manually by the health facilities which is supposed to form the basis for calculation of estimated annual requirement of medicines and consumables¹.

No reply was furnished by the Government (December 2020).

¹ Consumables includes gauge, bandages, syringes, etc.

5.1.1 Expiry of medicines and consumables

Despite availability of very short supplies of medicines and consumables in the State, District Hospitals (refer **Chapter III**), instances of expired medicines were found in the DH, Unakoti and DH, Gomati and the District Medicine Store at Gomati and the Ayush Hospital², Kailashahar, due to lack of monitoring at the supervisory level.

No reply was furnished by the Government (December 2020).

5.1.2 Drug storage

Audit noticed that the Department did not prepare any Standard Operating Procedure (SOP) for drug storage and management. There was no system for maintaining and recording the pharmacy temperature in all the selected health care centres. There was no system for recall of the expired drugs from the service area. No records were maintained on expired medicines and designated place to store expired medicine too. Further, basic electrical safety measures were not taken in the medicine store of the AGMC & GBP Hospital because exposed wiring was noticed in the medicine store room during audit. Water seepage was noticed in the medicine store DH, Dhalai. Photographic evidence is given in the **Photographs 5.1** and **5.2**.



Photograph 5.1



Photograph 5.2

Medicines Stores at GBP Hospital and DH, Dhalai

No reply was furnished by the Government (December 2020).

5.1.3 Drug testing

For supply of medicines to the Department, every supplier has to submit two sets of medicine test report, one from the manufacturers' own laboratory and another one from a NABL³ certified laboratory if the value of the order exceeds ₹ 0.50 lakh and for the supply order below ₹ 0.50 lakh manufacturers' own test report is accepted by the Department. In addition, the State Drug Testing Laboratory (SDTL)⁴ collects medicine samples randomly from the respective stores for testing the quality of the supplied medicines by the suppliers. If testing facility of collected samples are not

² Ayush Hospital is under the DHS, Government of Tripura

³ National Accreditation Board for Testing and Calibration Laboratories

⁴ Directorate of Health Services, Government of Tripura vide Memorandum No.F.5-II(I)/List of Drugs/DHS/2014-19/6733(V-IV) dated 04.09.2019

available at State Drugs Testing Laboratory (SDTL), Agartala then 10 *per cent* of the samples may be sent to Regional Drugs Testing Laboratory (RDTL), Guwahati for testing. Records of the Stores of the DHS and the AGMC & GBP Hospital revealed that nine samples out of 661 batches of medicines supplied to the DHS store and two samples out of the 120 batches collected from Hospital store were found to be sub-standard. Before receiving the drug test report, 3.81 lakh Ranitidine, Ciprofloxacin, etc. drugs were distributed to patients and nine bottles of Providone Iodine solution were utilised for treatment of patients.

The State Drug Testing Laboratory did not have the facility for testing of injectable drugs and reagents and 10 *per cent* of such items are required to be sent to the Regional Drugs Testing Laboratory (RDTL), Guwahati. However, only three *per cent* of injectable drugs and reagents, against the 639 batches of supplies, were collected by the SDTL during the period covered in audit and remaining quantities were utilised by the hospitals in the State, without any test.

No reply was furnished by the Government (December 2020).

5.1.4 Non-availability of important hospital items.

The position of requirement of important hospital items for routine hospital services for the entire State and their procurement by the DHS, Government of Tripura, during 2014-19 are shown in **Table 5.1**.

Table 5.1: Position of procurement of important medical items

(*in numbers*)

Sl. No.	Name of the item	Five years requirement	Procurement during five years	Shortage (<i>in per cent</i>)
1.	BP Instrument	2844	455	84
2.	Oxygen Cylinder regulator	723	175	76
3.	Surgical gloves	1393400	655600	53
4.	Thermometer	996	58	94
5.	Zelco Needle	538625	0	100
6.	Stethoscope	2191	498	77
7.	X-Ray view Box	143	19	87
8.	ECG Machine	71	0	100
9.	Test Tube	7600	0	100
10.	Screen Stand for patient's examination	524	0	100
11.	Saline Stand	2208	0	100
12.	Patient carrying Trolley	498	0	100
13.	Umbilical Cord Scissors	290	38	87

The position of requirement and availability of the above items in the GBP Hospital is shown in **Table 5.2**.

Table 5.2: Position of requirement and availability of some selected equipment and hospital items in State Hospital

Sl. No.	Name of the item	Total requirement	Total received	Shortage	Percentage of shortage
1	BP Instrument	1933	902	1031	53.34
2	Oxygen Cylinder regulator	3187	1490	1697	53.25
3	Zelco Needle	692077	412612	279465	40.38
4	Stethoscope	642	100	542	84.42
5	ECG Machine	237	66	171	72.15
6	Test Tube	94000	92000	2000	2.13
7	Screen Stand for patient's examination	298	22	276	92.62
8	Saline Stand	1029	287	742	72.11
9	Patient carrying Trolley	294	75	219	74.49

The position of requirement and availability of the above items in the selected District Hospitals during 2014-19 is given in **Table 5.3**.

Table 5.3: Position of requirement and availability of some selected equipment and hospital items in the test-checked DHs during 2014-19

Sl. No.	Name of the instrument	DH, Unakoti				DH, Dhalai			
		Total require- ment	Total received	Shor- tage	Percen- tage of shortage	Total require- ment	Total received	Shortag e	Percen- tage of shortage
1	BP Instrument	80	52	28	35.00	82	56	26	31.71
2	Oxygen Cylinder Regulator	75	32	43	57.33	32	61	(-) 29	
3	Zelco Needle	22000	0	22000	100.00	5400	3500	1900	35.19
4	Stethoscope	60	6	54	90.00	93	25	68	73.12
5	ECG Machine	3	0	3	100.00	4	1	3	75.00
6	Test Tube	2200	0	2200	100.00	2300	5180	(-) 2880	
7	Screen Stand for Examination	0	0	0		16	15	1	6.25
8	Saline Stand	100	0	100	100.00	136	10	126	92.65
9	Patient Carrying Trolley	4	1	3	75.00	18	13	5	27.78
10	Umbilical Cord Scissors	0	0	0		4	3	1	25.00

It could be seen from **Table 5.3** that shortage of some equipment and medical items ranged from six *per cent* to 100 *per cent*. Due to non-procurement of important medical items, Audit noticed that the service deliveries in the selected hospitals had been compromised. The hospital staff were found to have been using empty medicine vials for sending the samples to the hospital laboratory due to non-supply of test tubes over the years and used needles were found to have been kept in the sample collection area, without being discarded as shown in the **Photographs 5.3 to 5.6**.



Photographs 5.3 to 5.6: Use of empty medicine vials for collection of samples and non-discarding of used needles in the DH, Unakoti.

No reply was furnished by the Government (December 2020).

5.2 Dietary services

Health and Family Welfare Department, Government of Tripura had recommended six types of diet charts depending upon the types of inpatient.

Audit noticed that in-house dietary services have been provided in all the test-checked hospitals. However, no hospital provided six type of diets as per the instructions of the Government of Tripura. Test-checked hospitals did not furnish any records regarding quality testing of the served diet maintained in hospitals for verification. Food was also not served to the patients' bedside which made it difficult for the patients who had undergone surgical procedure, *etc.* to collect diet without the aid of an attendant. No system⁵ was adopted by the hospital to monitor that actual patient receives the diet from the hospital. Food chart along with the Government approved quantity was not available in any of the hospital for awareness of the patients.

No reply was furnished by the Government (December 2020).

5.3 Hospital linen and laundry services

5.3.1 Availability of linen

IPHS prescribe the number of different types of linen⁶ that are required for patient care services for hospitals with different bed capacities in the category of 101 to 200, 201 to 300 and 301 to 500. The State Hospital (GBPH) does not fall under the IPHS norms having the bed capacity of 726 and the State Government also did not fix any norm for the hospital for provision of linen to the patients admitted in the hospital. While the status of availability of linen in the DHs was evaluated *vis-à-vis* IPHS

⁵ Issue of a daily diet token by the Ward with Bed No. and Date, *etc.*

⁶ Abdominal sheets for OT, Bed sheets, Bedspreads, Blankets (Red and Blue), Doctor's overcoats, Draw sheets, Hospital worker OT coats, Leggings, Mackintosh sheets, Mats (Nylon), Mattresses (Foam) for adults, Mortuary sheets, over-shoe pairs, paediatric mattresses, Patient's coats (Female), Patient's pyjamas, Shirts (Male), Patna towels, Perennial sheets for OT, Pillows, Pillow cover and Table cloth

norms, the availability of linen in the GBP Hospital was evaluated with IPHS norms for DH having 500 bed capacity. The position is shown in **Table 5.4**.

Table 5.4: Non-availability of linens in the hospitals

Sl. No.	Name of the articles	Required quantity for DH (100-200)	Available in the DH as on 17.12.2019	Required quantity for GBPH*(301- 500)	Available in the State Hospital
1.	Bedspread	1200	NIL	3000	NIL
2.	Patients Housecoat (Female)	600		1500	365
3.	Patients Pyjama (Male)	300		600	270
6.	Abdominal Sheet for OT	150	108	250	NIL
7.	Parental Sheets for OT	150		250	
8.	Leggings	100		200	
9.	Mortuary Sheet	50		100	
10.	Mats (Nylon)	100		300	

* AGMC&GBPH has been evaluated with IPHS norms for DH having 301-500 bed capacity

Audit noticed that except abdominal Sheet for OT, no other articles were provided to the selected DHs. In GBP Hospital only Patients Housecoat (female) and Patients Pajama (male) were marginally provided. Audit also noticed that Over shoe pairs, pillows and pillow covers, etc. were marginally provided to the hospitals and the shortages ranged from *64 per cent* to *95 per cent* in case of DHs and *75 per cent* to *93 per cent* in case of the State Hospital.

No reply was furnished by the Government (December 2020).

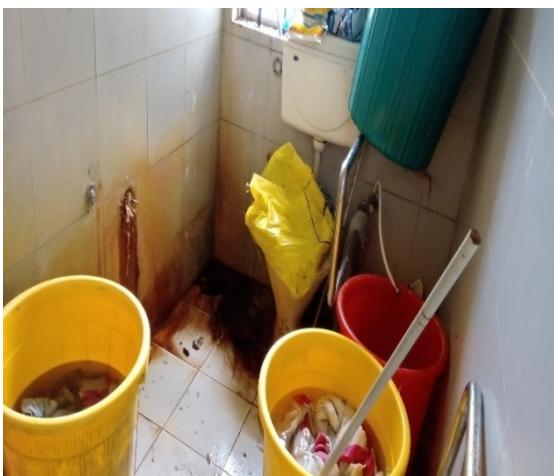
5.3.2 Laundry services

A hospital should provide clean and hygienic linen to patients for preventing infection among patients and hospital staff. For providing clean and hygienic linen, particularly the bedsheets, blankets, etc. to the patients an efficient laundry service should be available with each health facility for timely collection of the soiled linens from the hospital wards and also the timely return of the same after cleaning and washing in a routine manner.

Audit noticed that manual laundry system was in vogue in the DHs, the CHC and the PHC while mechanised laundry system was available in the State Hospital (GBPH). The Department did not issue any guidelines nor prepared any SOP on laundry services. Daily changing of the hospital bedsheets were not done in any of the test-checked hospitals except in the Maternity Ward⁷ of the DH, Dhalai. The test-checked hospitals outsourced the laundry services. However, proper record for collection of soiled linens by the service provider from the wards and returning them back were not maintained. For sluicing of soiled, infected and fouled linen no standard procedure was also followed by the hospitals. We also noticed that linens were not washed in a clean environment and no standard was prescribed in the agreement document for the type and quantity of the cleaning agent or the detergent,

⁷ The DH, Dhalai implemented LaQshya initiative and bedsheets of three different colours were used by the hospital which were changed everyday

required to be used by the service provider. The monitoring mechanism was absent regarding utilisation of chemicals and disinfectants, used in cleaning operations in any of the test-checked hospitals. During physical verification of the site of laundry services by outsourced agencies, Audit noticed that the outsourced agencies washed the soiled linen, cloths, etc. in the hospitals. Non-availability of proper washing arrangement for linen in the premises of DH, Unakoti used by the outsourcing agency is shown in **Photographs 5.7 and 5.8**.



Photograph 5.7

Washing arrangement of linen in the District Hospital, Unakoti



Photograph 5.8

No reply was furnished by the Government (December 2020).

5.4 Infection control

According to the Operational Guidelines for Quality Assurance in Public Health Facilities- 2013 published by the Ministry of Health and Family Welfare, Government of India, every health facility should have infection control programme and procedure in place for prevention and measurement of hospital associated infection. Healthcare-acquired infections are one of the most common complications of health care. A well-functioning infection prevention and control programme helps in minimising the risks for the patients, doctors, support staff, attendants to the patients and the visitors who visit the patient during hospitalisation period.

Hospital Infection Control Committee was found to have been formed in both the DHs but no activity was noticed. It was noticed in audit that SOP for infection control mechanism was not prepared by any of the test-checked hospitals including the State Hospital. The State Hospital had infection control plan for the ICU and the OTs of the Hospital but records regarding proper implementation of the plan and its monitoring was not available. Test-check of the infection control status of the OT in the DH, Unakoti revealed that the hospital did not adhere to the norms and procedure for infection control.

No reply was furnished by the Government (December 2020).

5.4.1 Staff immunisation and training of health care workers

Medical check-up and immunisation of staff is a part of the hospital infection control programme and to be followed by all the hospitals according to the Assessor's Guidebook for Quality Assurance in the District Hospitals. Audit noticed that the activity was carried out in DH, Dhalai only from June 2019 while no records regarding staff immunisation could be produced by other test-checked hospitals including the State Hospital. However, AGMC & GBP Hospital stated that infection management policy was followed only in the ICU and OT. Training of health care workers in patient safety, infection control and bio-medical waste management was conducted only in March 2019 in DH, Dhalai while no other selected hospitals had carried out such activities during the audit period.

No reply was furnished by the Government (December 2020).

5.4.2 Pest and rodent control

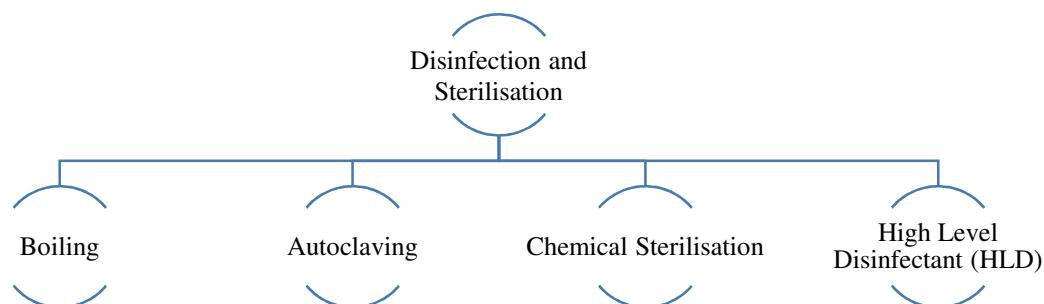
Controlling spread of infection through rodents and pests in the hospitals is an important component of infection control practices as per NHM Assessor's Guidebook. Test-checked hospitals had not maintained any such records. In the absence of records, Audit could not derive an assurance whether pest and rodent control practices were actually followed in the test-checked hospitals/CHCs.

No reply was furnished by the Government (December 2020).

5.4.3 Disinfection and sterilisation

As per Hospital Infection Control Guidelines of the Indian Council of Medical Research (ICMR), disinfection and sterilisation help prevent the build-up of bacteria/viruses, etc. on the medical tools, linen and consumables and reduce the chances of spread of infection in patients and staff of hospitals. NHM Assessor's Guidebook recommends boiling, autoclaving, high level disinfection (HLD) and chemical sterilisation process for disinfection/sterilisation in the DHs and CHCs as shown in **Chart 5.1**.

Chart 5.1



Generally, critical instruments/ equipment (those penetrating skin or mucous membrane) should undergo sterilisation before and after use, e.g. surgical instruments. semi-critical instruments/ equipment (those which come in contact with the intact mucous membrane without penetration) should undergo high level

disinfection before use and intermediate level disinfection after use, e.g. endotracheal tubes.

Audit noticed that the GBP Hospital and DH, Dhalai and DH, Unakoti undertakes only autoclaving process for disinfection/sterilisation of the OT instruments and the consumables utilised in the OT before using them. No other sterilisation process were used by the hospitals including the State Hospital (GBPH). Linen was also not sterilised before issuing to the patients by the hospitals.

No reply was furnished by the Government (December 2020).

5.4.4 Chemical sterilisation

As per NHM Assessor's Guidebook, chemical sterilisation⁸ is needed for instruments like ambu-bag, suction canulae and surgical instruments by soaking in 0.5 *per cent* chlorine solution, wiping with 0.5 *per cent* chlorine solution or 70 *per cent* alcohol, as applicable. Chemical sterilisation was not undertaken by any of the test-checked hospitals as noticed in audit.

No reply was furnished by the Government (December 2020).

5.4.5 High level disinfection

As per Hospital Infection Control Guidelines of the Indian Council of Medical Research (ICMR), High Level Disinfection⁹ (HLD) is the process of complete elimination of all micro-organisms in or on a device, with the exception of small numbers of bacterial spores. Audit noticed that GBPH, DH, Dhalai and DH, Unakoti did not undertake HLD process.

No reply was furnished by the Government (December 2020).

5.5 Patient safety

5.5.1 Disaster management capability of hospitals

NHM Assessor's Guidebook envisages that a Disaster Management Plan (DMP) be developed for each hospital to trigger a mechanism of preparedness in case of signal of a disaster in the hospital and also organise disaster management training for hospital staff and conduct periodic mock drills in the hospitals. SOPs should be available and a disaster management committee should be constituted.

Audit noticed that test-checked hospital did not prepare any SOP on disaster management except DH, Dhalai which prepared SOP in June 2019. Disaster management committee was also not available in any of the test-checked hospitals. Mock drill on disaster management was conducted in DH, Dhalai in December 2019 but no other selected hospital including GBPH could submit any record regarding conduct of mock drill on disaster management during the period covered in audit.

⁸ Alcohol, Chlorohexidine, Chlorine Compounds, Formaldehyde, Glutaraldehyde, Hydrogen Peroxide, Peracetic Acid are used as disinfectants according to the nature of infection and the objects to be disinfected as per the ICMR Hospital Infection Control Guidelines

⁹ Glutaraldehyde is the chemical required for High Level Disinfection as per the ICMR Guidelines

No reply was furnished by the Government (December 2020).

5.5.2 Safety from fire

Fire safety guidelines issued by the National Accreditation Board for Hospitals & Healthcare Providers (NABH) state that fire can be devastating especially in a hospital where large number of people who need to be evacuated may be vulnerable-immune compromised, on life support, and incapable of moving on their own. There are special requirements that must be met while evacuating such people in case of fire emergencies. NABH's fire safety guidelines also provide that it is mandatory for all hospitals to obtain No Objection Certificate (NOC) from the concerned Fire Department before the building can be occupied. The NOC is required to be renewed every year. The health care institutions should have a multi-disciplinary safety committee with a senior person as the chairman of the safety committee and a written plan for Fire Prevention and Safety and has a Fire Safety Manual approved by the safety committee.

Further, National Building Code of India 2016, Part 4, Fire and Life Safety requires 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.

Audit noticed that the NABH's fire safety guidelines were grossly violated by the sampled health care institutions *viz.* annual No Objection Certificate (NOC) was not obtained from the Fire Department and fire prevention plan was also not formulated including the State Hospital AGMC & GBP. Except in DH, Dhalai, fire extinguishers were found non-functional in all the test-checked hospitals as shown in **Table 5.5** while no fire extinguisher was installed in PHC, Mandwi; 22 fire extinguishers in DH, Unakoti expired in December 2015; two fire extinguishers in CHC, Mohanpur procured in 2003, also expired. It is alarming that out of 323 fire extinguishers installed in the AGMC & GBPH, refilling of 309 fire extinguishers was pending since February 2018 and 14 new fire extinguishers, procured in May 2018, also got expired in September 2019.

Table 5.5: Position of availability and functional extinguisher

Hospital	No. of beds	No. of fire extinguishers	No. of functional fire extinguishers
DH, Dhalai	150	19	19
DH, Unakoti	150	22	0
CHC, Mohanpur	20	2	0
PHC, Mandwi	10	0	0
AGMC & GBP Hospital (State Hospital)	727	323	0

The State Hospital with a bed capacity of 726 which is the biggest hospital in the State, has no functional fire extinguishers. Audit further noticed that no fire alarm system and fire hydrants for dousing fire using water was available in the PHC, Mandwi and the CHC, Mohanpur, Fire alarm system and fire hydrants were found to

have been not working in the State Hospital (GBPH) and the DH, Dhalai and Unakoti due to non-maintenance. Thus, the safety of the patients/attendants/visitors is at stake.

The decrepit state of firefighting apparatus is shown in the **Photographs 5.9 to 5.12**.



Photograph 5.9: GBP Hospital



Photograph 5.10: DH, Unakoti



Photograph 5.11: DH, Dhalai



Photograph 5.12: DH, Dhalai

Audit noticed that in DH, Dhalai, corrugated sheet made roof of the Fire Hydrant Room was blown away due to thunderstorm during 2017-18 but that was not repaired. Further, high end machineries were lying in the open, exposed to nature. This reflects apathy towards fire safety of the patients by the hospital authority. However, signage showing the exit symbols were available in both the DHs and the State Hospital but ‘Glow in the Dark’ type of exit signage which is an essential component for any emergency exit during night, was not available.

No reply was furnished by the Government (December 2020).

5.6 Bio-Medical Waste (BMW) management

The Biomedical waste management is an integral part of infection control activities of the hospital. 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). According to the BMW Rules, hazardous, toxic and bio-medical waste has been separated into 10 categories for the purpose of its safe transportation to specific site for specific treatment. Further, the BMW Rules *inter alia* stipulate the procedures for collection, handling, transportation, disposal and monitoring of the bio-medical Waste with clear roles for waste generators.

Audit noticed that all the test-checked health facility centres were segregating the waste in different categories in separate coloured bins, available at the point of generation of waste, particularly in the ward areas, OTs, etc. as per the BMW rules but all the wastes were subsequently mixed at the time of disposal which made the segregation process futile. Both the test-checked DHs flouted the BMW rules by discarding the hospital waste in open areas, posing a serious threat to the environment and the people who live in the surrounding areas. CHC, Mohanpur put the wastes in big plastic bags and kept the wastes in a corner of the hospital for disposal. The PHC, Mandwi was disposing the wastes in deep burial pit as per the rules.

The waste generated by the State Hospital (GBPH) was collected by the Agartala Municipal Corporation under an agreement with the hospital authority while the

responsibility for disposal of the wastes generated by the other test-checked hospitals lied with the concerned hospital authorities as per the BMW rules.

The disposal of wastes by the DHs are shown in **Photographs 5.13 and 5.14**.



Photograph 5.13



Photograph 5.14

Disposal of hospital wastes by DH, Dhalai and DH, Unakoti

Audit noticed that the liquid waste was discarded in the drains of the hospitals. Moreover, the solid waste was discarded in the open space inside the hospital premises. During rainy season, the toxic elements of the waste were drained away by the rain water into the nearby streams/rivers. Thus, water contamination has been posing a big threat for river Dhalai, flowing near by DH, Dhalai and Laxmicheera¹⁰ stream flowing near by DH, Unakoti, which are the biggest source of drinking water to the people residing nearby.

Office of the Mission Director, NHM entered into an agreement with a firm for Common Bio-Medical Waste Treatment Facility (CBMWTF) in February 2019 for management and treatment of hospital waste generated by 123 hospitals, CHCs and PHCs in the State. The operation has not yet commenced for want of statutory environmental clearance.

No reply was furnished by the Government (December 2020).

5.6.1 Training for management of bio-medical waste

As per the BMW Rules, it is the responsibility of the health care facilities to ensure that all the staff are provided regular training on bio-medical waste handling. Audit, however, observed that no such training was provided in any of the test-checked hospitals, CHC and PHC.

No reply was furnished by the Government (December 2020).

¹⁰ A local stream which ultimately flows into the river Manu

5.7 Ambulance Service

An ambulance is a medically equipped vehicle which transports patients to treatment facilities, such as hospitals.

Audit noticed 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 were not available in the State. Hospitals were proving ambulance service to the emergent cases as a referral transport to the higher health facility centre as a means of free transport.

Audit further noticed that the ambulances in the hospitals in the State lack basic life support facility *viz.* Oxygen Cylinder, First Aid Box, trained paramedics, *etc.* as required under the IPHS norms. They were being used as simple transport vehicles.



Photograph 5.15: Model photograph of 102 Ambulance Service

Table 5.6: Status of ambulances by the sampled hospitals

Name of the health facility	Number of ambulances	Number of functional ambulances	Type of ambulance
AGMC & GBP Hospital	04	04	Mainly patient carrier vehicle and lack basic life support system
DH, Dhalai	04	03	-do-
DH, Unakoti	02	02	-do-
CHC, Mohanpur	01	01	-do-
PHC, Mandwi	01	01	-do-

Government stated (July 2020) that fleet of 50 Basic Life Support (BLS) Ambulances linked to ‘102’ were procured and made operational (March 2020) through a private agency to strengthen and supplement referral transport/ambulance services across the State with NHM support.

5.8 Power back-up and water supply

Power back-up arrangements in the Blood Banks, Vaccine Storage area, Operation Theatre and emergency service area and water supply arrangement in the selected hospitals and other hospitals were verified in terms of the provision of Assessor’s Guide Book.

Audit noticed that water supply back-up arrangement was not available in DH, Dhalai. Though the power back-up facility was available in DH, Dhalai, the vaccine storage facility was not covered. No log record for disruption of power supply was maintained by any of the above facilities and could be made available for audit scrutiny.

No reply was furnished by the Government (December 2020).

Conclusion

There was no drug policy of the Government of Tripura. However, the Directorate of Health Services (DHS), Government of Tripura prepares Essential Drug List (EDL) for the hospitals in the State. As per EDL 2016-17, 215 drugs were prescribed for District Hospitals and 333 drugs for State Hospitals. Audit noticed that there was no systematic approach for assessment of actual requirement since the medicines and consumables prescribed were not recorded either electronically or manually by the health facilities, to support the basis of calculation of annual requirements. The Department did not prepare any Standard Operating Procedure (SOP) for drug storage and management. Drugs storage was not as per norms and was found deficient in terms of adequacy of space, proper storage and recording of temperature in storage places. There was no system in place for recalling expired drugs and instances of expired drugs were found in DHs. The State Drug Testing Laboratory did not have the testing facility for injectable drugs. Due to non-procurement of important medical items the service deliveries in the selected hospitals were compromised.

In-house dietary services were deficient as no test-checked hospitals provided six type of diets as per the Government guidelines and quality checking of the served diet was absent. Manual laundry system was in vogue in the test-checked DHs, CHC and PHC. No guidelines or SOP was available for laundry services. Test-checked DHs and State Hospital undertook only autoclaving process for disinfection/sterilisation of the OT instruments and the consumables utilised in the OT before using them. No other sterilisation process were used by the hospitals including the State Hospital (GBPH). Linen was also not sterilised before issuing to the patients by the hospitals.

Fire safety management in the test-checked hospitals was virtually absent and annual No Objection Certificate (NOC) from the Fire Department was not obtained by any of the test-checked hospitals. Fire alarm system and fire hydrants were not found working in the State Hospital (GBP) and the DHs, Dhalai and Unakoti due to non-maintenance of fire services/equipment. Except in DH, Dhalai fire extinguishers were found non-functional in all the test-checked Hospitals. Thus, there was no assurance of fire safety measures in the health facilities.

Both the test-checked DHs were flouting the bio-medical waste management rules with the open discarding of the hospital waste which posed a serious threat to the environment. Hospital staff were not trained on BMW Rules. Ambulances in the hospitals lacked basic life support facility viz, Oxygen Cylinder, First Aid Box, trained paramedics. etc. as required under the norms, rather these were used more as transport vehicles.

Recommendations

- i. *The State Government may formulate a drug policy and ensure essential hospital items to all hospitals. Department may also create facility for testing of injectable drugs in the State Drug Testing Laboratory (SDTL).*

- ii. Hospital diet chart along with the quantity may be displayed in the In-Patient Wards and quality of the served diet may be ensured using the service of approved Food Testing Laboratory and noted in the Diet Register.*
- iii. State Government may formulate Standard Operating Procedure (SOP) for laundry services.*
- iv. Annual No Objection Certificate for fire safety measures may be obtained from the Fire Department to ensure the safety of the doctors/staff and patients from fire hazards and regular mock drills for disaster management may be conducted for hospital staff.*
- v. BMW Rules may be followed by the hospitals in letter and spirit to provide infection free environment in DHs. Staff may be adequately trained to observe BMW Rules in DHs.*
- vi. Hospital Ambulances may be equipped with the basic life support facility and trained man power.*

CHAPTER VI

MATERNAL AND CHILD CARE

Chapter VI: Maternal and Child Care

Adequacy of healthcare services relating to maternal and infant care

6.1 Maternal and Child Health

Maternal health refers to the health of women during pregnancy, childbirth and the postpartum period, whereas prenatal health refers to health from 22 completed weeks of gestation until seven completed days after birth. New born health is the babies' first month of life. A healthy start during the prenatal period influences infancy, childhood and adulthood¹.

6.1.1 MMR and IMR (State level)

Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR)² 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. Maternal Mortality Rate (MMR) is defined as the number of maternal deaths per 100,000 live births due to causes related to pregnancy or within 42 days of termination of pregnancy, regardless of the site or duration of pregnancy.

The All India MMR during 2011-13 stood at 167 per 100,000 live birth which declined to 130 in 2014-16 and was 113 in 2016-18. The All India IMR which stood at 40 per 1000 live births in 2013 fell to 33 in 2017.

Trend of MMR and IMR in Tripura during 2014-19 is shown in **Table 6.1**.

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

Year	Number of reported			MMR in Tripura (of one lakh live births)	IMR in India	IMR in Tripura (of 1,000 live births)
	Livebirths	Maternal deaths	Infant deaths			
2014-15	50949	Data not available	521	Could not be calculated due to non-availability of data	39	10
2015-16	50276	Data not available	518		37	10
2016-17	48804	Data not available	573		34	12
2017-18	51166	68	999	133	33	20
2018-19	50035	37	859	74	32	17
Total	251230	105	3470	Average 104	Average 35	Average 14

Source: Health Management Information System (HMIS) data, Tripura

¹ According to World Health Organisation (WHO)

² Maternal Mortality Rate (MMR) is the number of maternal 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 MMR³ and IMR in the State was lower than the All India figures. From **Table 6.1**, it can be seen that MMR of State during 2018-19 had come down to 74 from 133 during 2017-18. The IMR during 2014-19 has shown a fluctuating trend. The IMR had increased to 20 in 2017-18 from 12 in 2016-17 and came down to 17 in 2018-19. The MMR and IMR decreased in the State during 2018-19 as compared to 2017-18.

6.1.2 IMR in the test-checked hospitals

The trend of MMR and IMR of the two test-checked DHs and the State Hospital during 2014-19 is given in **Table 6.2**.

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

Year	DH, Dhalai		DH, Unakoti		GBP Hospital	
	Live births	Infant deaths (IMR in parenthesis)	Live births	Infant deaths (IMR in parenthesis)	Live births	Infant deaths (IMR in parenthesis)
2014-15	859	25 (29)			5233	43 (8)
2015-16	1061	28 (26)			5707	52 (9)
2016-17	1021	28 (27)			5649	68 (12)
2017-18	1000	21(21)	1542	25(16)	6256	71 (11)
2018-19	1183	33 (28)	1554	11(7)	6470	98 (15)
Total	5124	135(26)	3096	36 (12)	29315	332 (11)

Source: Records of the test-checked DHs

During 2014-19, IMR in GBP Hospital ranged between eight to 15 which increased from eight in 2014-15 to 15 in 2018-19. The IMR in two test-checked DHs showed a mixed trend. While the DH, Dhalai registered IMR between 21 to 29 during 2014-19 which was much higher than the State Hospital (GBP Hospital) whereas DH, Unakoti recorded a lower rate between 16 to seven during 2017-19. The increase in infant death in test-checked DH, Dhalai and GBP Hospital is a matter of concern.

The major causes of infant deaths during 2014-19 have been identified as Pneumonia, Fever, Asphyxia, Sepsis & Low Birth Weight (LBW), Diarrhoea (three *per cent*), etc. while the major causes of maternal deaths have been identified as Anaemia, Haemorrhage (both Ante and Post-Partum), Retained Placenta, Cardiac and Respiratory failure.

6.1.3 Antenatal Care

Antenatal Care (ANC) is the systemic supervision of women during pregnancy to monitor the progress of foetal growth and to ascertain the well-being of the mother and the foetus.

The total number of Pregnant Women (PW) in the State registered for ANC, registered within the first trimester (within 12 weeks), number of PW who received up

³ The MMR figures (ratio) appears high due to low sample (per 100,000 live birth) which was never achieved in the State

to 3-4 ANC check-up⁴, number of PW given TT2/ Booster, etc. during 2014-19 is shown in **Table 6.3**.

Table 6.3: Pregnant women registered and received ANC services

Year	Number of PW registered for ANC		No. of PWs received up to 3/4 ANC check-ups (per cent)	TT2 or Booster given to PWs (per cent)	IFA Tablets given to PWs
	Total	Within first trimester (per cent)			
2014-15	77,290	48,499 (62.7)	55,291 (71.5)	51,788 (67)	46,465 (60.1)
2015-16	75,760	46,859 (61.9)	51,688 (68.2)	50,648 (66.9)	48,801 (64.4)
2016-17	76,813	48,465 (63.1)	48,736 (63.4)	50,326 (65.5)	58,807 (76.6)
2017-18	75,540	46,022 (60.9)	39,861 (52.8)	53,133 (70.3)	29,345 (38.8)
2018-19	72,307	46,766 (64.7)	40,717 (56.3)	52,447 (72.5)	40,849 (56.5)
Total	3,77,710	2,36,611 (62.6)	2,36,293 (62.5)	2,58,342 (68.4)	2,24,267 (59.4)

Source: HMIS data

As can be seen from **Table 6.3**, during 2014-19 only 62.6 *per cent* of PW were registered for ANC during the first trimester. Further, the trend of registration for ANC during the first trimester declined from 62.7 *per cent* to 60.9 *per cent* during 2014-15 to 2017-18. However, it ultimately increased to 64.7 *per cent* in 2018-19.

The number of TT2 or booster dosages administered to PW had also declined from 67 *per cent* to 65.5 *per cent* during 2014-15 to 2016-17. However, it increased to 72.5 *per cent* in 2018-19. Similarly, the number of PW given with IFA 100/ 180 tablets had declined from 60.1 *per cent* in 2014-15 to 56.5 *per cent* in 2018-19.

In the test-checked DHs, it was seen that no record of patient-wise distribution of IFA tablets was maintained in DH, Unakoti. Though record of patient-wise distribution of IFA tablets was maintained in DH, Dhalai there was non-distribution as well as short distribution of IFA tablets to the beneficiaries. Both the DHs received Calcium tablets for distribution only in 2018-19. However, no record of patient-wise distribution of calcium tablets was maintained in any of the DH.

The basic pathological tests required to be performed during ANC and their availability in the test-checked SH, DHs, CHC and PHC is given in **Table 6.4**.

Table 6.4: Availability of pathological tests for ANC check-up

Sl. No.	Name of the Pathological Investigation	Whether available in the SH, DHs, CHC and the PHC
1.	Blood Group including Rh factor	Available in all the test-checked PHC, CHC, DHs and the SH
2.	Sugar Test from Blood and Urine	
3.	Haemoglobin (<i>per cent</i>)	
4.	HbsAg (Hepatitis B test)	
5.	VDRL (Venereal Disease Research Laboratory)	
6.	HIV Test	

Though the required facilities for pathological tests were available even in the PHC level health care facility centres, but the required tests were not carried out in each ANC for monitoring the health status of the PWs and recorded in the Mother Child

⁴ Up to 2016-17 there was a provision for three ANC check-ups and from 2017-18 provision for four ANC check-ups made

Protection (MCP⁵) card which were issued to the PWs at the time of registration for ANC, though there were provisions for recording all the test results in the MCP card.

Field visit to patients home in the PHC, Mandwi⁶, (49 cases) and patients survey in the State Hospital⁷ (46 cases) revealed that nine out of 95 cases, the patient received four ANC check-ups, previous pregnancy history was not recorded even in a single case and basic pathological tests were also not recorded in the MCP Card. Verification of Integrated Reproductive Child Health (RCH) Register at PHC, Mandwi confirmed the fact.

Government accepted (July 2020) the facts and stated that quality of anti-natal care was an issue. It was also stated that under the Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), pregnant mothers are checked by specialist/senior doctors along with investigations on 9th of every month and high risk mothers are identified and followed up till delivery. The fact remains that vital clinical parameters of the PWs were not recorded in the MCP card as noticed during field verification.

No reply was received on this observation (December 2020).

6.1.4 Management of Reproductive Tract Infection (RTI) /Sexually Transmitted Infection (STI)

STI/RTI prevention and management are as important during pregnancy as at any other time.

In the hospitals, CHC and PHC, Venereal Disease Research Laboratory (VDRL) investigation facilities were available to detect RTI/STI. Audit could not verify whether the test was carried out during ANC check-up and result thereof, as there was no record in the MCP card noticed during field visit.

No reply was furnished by the Government (December 2020).

6.1.5 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 newborn babies, but also prevents stillbirths, Neo-natal deaths and other complications. Under Reproductive and Child Health (RCH), Janani-Sishu Surakhsha Karyakram (JSSK) is one of the components/programme.

Audit noticed that no separate arrangement for care of the expected mothers were made by any of the test-checked hospitals including the State Hospital, Agartala. Separate sanction of manpower, drugs and consumables were not available. Audit noticed that out of the total available funds of ₹ 414 crore under RCH, the State could

⁵ Mother Child Protection Card, this card is to be kept with the patient and required to be brought to the health centre at each ANC visit for recording all clinical notes and Health Care Centre also maintains a register to record all the clinical details of the PW being the hospital part of the MCP card

⁶ Dominated by tribal population

⁷ Comprising mixed patients from all parts of the State

utilise only ₹ 148 crore (36 *per cent*) during the period 2014-19. The JSSK funds are uncapped funds under RCH programme, i.e there was no shortage of funds under JSSK in any of the test-checked hospitals. No orders were issued by the Department for establishment of separate arrangement for intra-partum care as required under Assessor's Guidebook for Quality Assurance in District Hospital, Vol-I, so that the implementation could be verified in audit.

Field visit and patient survey revealed that the out of 46 patients surveyed, all the patients were not fully aware about the provisions related to JSSK of the Government of India and most were just aware about the admissibility of the transportation cost of the PW to the health care centre.

Though adequate funds for implementation of JSSK programme were available with the hospital authorities and the Medical Superintendent of all the test-checked hospitals including the State Hospital (GBP Hospital) were found to have been issuing medicines slips for purchase of medicines from open market by patients in violation of the free drugs provision of the JSSK programme. The Medical Officers In-Charge were empowered to procure medicines on rate contract with the approval of the Rogi Kalyan Samity (RKS) of the hospital but lack of initiative on their part deprived pregnant mothers the envisaged benefits of the JSSK programme.

Government accepted (July 2020) the facts and stated that there was lack of space at GBP Hospital as many mothers from nearby PHC areas prefer to come for delivery at GBP Hospital. The problem would be solved on construction of Mother Child Health (MCH) building sanctioned by the Government of India. The reply is not tenable as lack of space has no correlation with failure to procure medicines for PW, despite availability of funds.

6.1.6 Institutional deliveries

During 2014-19, a total of 2.54 lakh deliveries were reported in the State, of which, 2.29 lakh (90.27 *per cent*) were delivered in institutions (Public and Private), while 0.25 lakh (9.73 *per cent*) were delivered at home. Year-wise figures of institutional deliveries (ID) and deliveries at home in the State are given in **Table 6.5**.

Table 6.5: Institutional deliveries and delivery at home during 2014-19

Year	Details of Institutional deliveries (<i>per cent</i>)			Home deliveries (<i>per cent</i>)	Total reported deliveries
	Public institutions	Private institutions	Total		
2014-15	41,884 (81.3)	2,851 (5.5)	44,735 (86.8)	6,779 (13.2)	51,514
2015-16	42,315 (83)	2,841 (5.5)	45,156 (88.6)	5,797 (11.4)	50,953
2016-17	41,936 (84.7)	2,728 (5.5)	44,664 (90.2)	4,813 (9.7)	49,477
2017-18	45,071 (87)	2,759 (5.3)	47,830 (92.2)	4,003 (7.7)	51,833
2018-19	44,586 (88.5)	2,421 (4.8)	47,007 (93.3)	3,336 (6.6)	50,343
Total	2,15,792 (84.92)	13,600 (5.35)	2,29,392 (90.27)	24,728 (9.73)	2,54,120

Source: HMIS data

From **Table 6.5**, it appears that the institutional deliveries had an increasing trend over the years. The rate of institutional deliveries increased from 86.8 *per cent* in 2014-15 to 93.3 *per cent* in 2018-19 of the total deliveries. The home deliveries had

declined from 13.2 *per cent* in 2014-15 to 6.6 *per cent* in 2018-19 of the total deliveries. There was an overall increase of 7.2 *per cent* in respect of deliveries at public institutions from 81.3 *per cent* in 2014-15 to 88.5 *per cent* in 2018-19. On the other hand, there was an overall decrease of 0.7 *per cent* in respect of deliveries at private institutions during the same period.

There was a huge difference between numbers of pregnant women registered (3,77,710) and the total number of reported deliveries (2,54,120) during 2014-19. The DHS attributed (September 2020) that the difference in figures was due to (i) double/triple registration, (ii) abortion/miss-carriage and (iii) migrant labourers who are registered in the State but deliver outside the State.

In absence of specific details in support of the reasons for variation provided by the DHS, the fact remains that the huge mismatch in the two figures needs to be addressed by the Health Department by giving specific directions to the District Hospitals in this regard. They need to also monitor the outcomes of the registered PW in the State for further improving institutional deliveries.

6.1.7 Major findings of patient survey

A patient survey was conducted (February 2020) in the State Hospital (GBPH) wherein 46 Pregnant Women (PW) and Lactating Mothers (LM) in the Maternity Ward of the hospital were interviewed and issues relating to the maternity care were asked.

Major findings from patient survey on maternal care have been enumerated in **Table 6.6**.

Table 6.6: Results of survey on maternal care received by the pregnant women

Sl. No.	Survey question	Reply of the PW/LM	Percentage
1.	Whether the PW/LM or her family members are aware about the MCP Card, its components and importance	No	51.43
2.	Whether the ASHA briefed about the importance of MCP card	No	72.86
3.	Do ASHA regularly check the MCP card	No	95.71
4.	Whether AWC Worker regularly check the MCP card	No	97.14
5.	Whether the PW/LM is aware about the JSSK Programme	No	100
6.	Whether the LM/PW purchased medicines from open market	Yes	90

Source: Patient survey in the Maternity Ward, GBP Hospital

Audit noticed that 51 *per cent* of PW/LM, though they were having a MCP Card issued by the Hospital, were not aware about the card, its different components and importance. Seventy-three *per cent* of the PW/ LM stated that Accredited Social Health Activist (ASHA) did not brief them about the importance of the MCP card. ASHA and Anganwadi Center (AWC) worker rarely checked the MCP cards. The PW/LM stated that they were not aware about the Janani-Sishu Suraksha Karyakram (JSSK) while 90 *per cent* of the interviewed PW/LM purchased medicines from open market during the time of treatment in the hospital.

No reply was furnished by the Government December 2020).

6.1.8 Non-preparation of partograph chart

According to the labour room quality improvement initiative (2017) under the LaQshya programme, Government of India, real-time partograph generation including shift to electronic partograph had been envisaged. 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.

Audit noticed that in none of the test-checked health facilities partographs were plotted. This compromised the ability of the hospitals to measure and seek improvement in the quality of service in the labour room to reduce the chances of adverse pregnancy outcomes.

Government accepted (July 2020) the facts and stated that the major causes for non-preparation of partograph was shortage of staff nurses in the maternity wards in the Hospitals. It was also assured that standard bed head ticket developed by the GoI for labour room would be followed in future.

6.1.9 Implementation of LaQshya initiative

For improving the quality of care at Public Health Facilities, Quality Assurance Standards for District Hospitals, Community Health Centres, Primary Health Centre and Urban-Primary Health Centres have been drafted, and their implementation has been operationalised through the National Quality Assurance (NQA) Programme. The LaQshya initiative includes:

- providing privacy to pregnant women during the intrapartum period, by way of separate labour room or at least a private cubicle;
- presence of birth companion during the labour;
- freedom to choose a comfortable position during birthing (squatting, standing, etc.);
- adherence to clinical protocols for management of labour;
- use of labour beds instead of tables;
- place baby on mother's abdomen;
- initiation of breast feeding within one hour of birth.

Audit noticed that LaQshya initiative was implemented only in DH, Dhalai out of the test-checked health facilities as a model initiative. The facility was not even available in the State Hospital (GBPH).

Government accepted (July 2020) the facts and stated that only DH, Dhalai was LaQshya Certified in the entire State.

6.1.10 Non-issue of medicines and consumables for follow up treatment

According to the guidelines of the JSSK, drugs and consumables including supplements such as, Iron Folic Acid are required to be given free of cost to the pregnant woman during ANC, INC and PNC⁸ up to six weeks which includes management of normal delivery, C-Section and any complications during the pregnancy and childbirth.

Audit noticed that the mothers were discharged from the health care facilities after the birth of baby and follow up treatment was also prescribed in the Discharge Certificate but medicines were provided to the mothers subject to their availability in the hospital. Thus, cash less motherhood as envisaged in the JSSK guidelines was not ensured.

No specific reply was furnished by the Government (December 2020).

6.2 Caesarean deliveries (C-Section)

As per the Maternal and Newborn Health (MNH) Toolkit, 2013 up to 15 *per cent* of deliveries or other cases of complications of pregnancy, e.g. incomplete, inevitable, missed abortion, ectopic pregnancy, etc. may need some sort of a surgical intervention; comprehensive Emergency Obstetric Care (EmOC) facility must have functional OT Services.

The test-checked DHs and the State Hospital (GBPH) were providing Caesarean (C-Section) services with the provision of specialised human resources (Gynaecologist/Obstetrician and Anaesthetist) and equipped operation theatre to provide Emergency Obstetric Care (EmOC) to pregnant women. Audit findings are discussed in the succeeding paragraphs.

6.2.1 Trends of Caesarean deliveries in the State

A C-Section may be recommended if the parents are expecting multiple births, such as twins, or the expected mother has a condition such as diabetes, high blood pressure, HIV or active herpes-section if the baby is not in a head-down position and efforts to reposition it have been unsuccessful.

The National Family Health Survey 2015-16 (NFHS-4) data showed the all India average of births delivered by caesarean section was 17.2 *per cent* while the caesarean delivery percentage of the State was 20.5. The C-Section delivery method adopted by the test-checked SH and the DHs is given in **Table 6.7**.

⁸ Post Natal Care

Table 6.7: The “C-Section” delivery at the sampled hospitals (in percentage of total delivery)⁹

Name of the health facility	2014-15	2015-16	2016-17	2017-18	2018-19	Average
GBP Hospital	55.57 (3045/5480)	53.04 (3154/5947)	54.87 (3235/5896)	56.40 (3693/6548)	56.12 (3792/6757)	55.24 (16919/30628)
DH, Dhalai	3.94 (35/888)	8.49 (92/1084)	6.51 (68/1044)	1.75 (18/1027)	4.32 (52/1205)	5.04 (265/5248)
DH, Unakoti	NA	NA	NA	19.74 (315/1596)	17.43 (278/1595)	18.58 (593/3191)

Source: Hospital records. DH, Unakoti started full fledged functioning from February 2017

It would be seen from **Table 6.7** that in the DH, Dhalai, C-Section delivery cases ranged from 1.75 *per cent* to 8.49 *per cent* while in the DH, Unakoti, rate was 17.43 *per cent* to 19.74 *per cent* during 2017-18¹⁰ and 2018-19. However, the rate of C-Section delivery in the GBP Hospital ranged from 53.04 *per cent* to 56.40 *per cent*. The high rate of C-Section delivery in GBP hospital remains a matter of concern, whereas the high rate of deliveries also indicated non-availability of required facilities and doctors in the District Hospitals.

No reply was furnished by the Government (July 2020).

6.2.2 Trends of C-Section deliveries in private health institutions

As can be seen from the **Table 6.5**, out of the total institutional deliveries in the State (2,29,392) during 2014-19 only 5.93 *per cent* (13,600) took place in private health institutions in the State. The State experienced a high rate of C-Section deliveries during 2014-19 (20.5 *per cent*) and well ahead of the national average of 17.2 *per cent* as discussed in **Para 6.2.1**. The data of deliveries in private health institutions revealed that 93 *per cent* of deliveries performed by those health institutions were under C-Section surgery method while the rate varied between 74.66 *per cent* to 99.96 *per cent*. Detail position is shown in **Table 6.8**.

Table 6.8: Trend of C-Section deliveries in Private Health Institutions

Sl. No.	Year	Total deliveries at Private Health Institutions	Number of C-Section deliveries	Percentage of C-Section deliveries
1.	2014-15	2,851	2,731	95.79
2.	2015-16	2,841	2,121	74.66
3.	2016-17	2,728	2,727	99.96
4.	2017-18	2,759	2,699	97.83
5.	2018-19	2,421	2,348	96.98
Total		13,600	12,626	92.84

Source: HMIS data

6.2.3 C-Section medical records

As discussed in **Chapter IV** for IPD Patients, patients' records in the form of a booklet containing pre-surgery evaluation, post-surgery evaluation, OT safety checklist, etc. were only maintained by DH, Dhalai from June 2019 for the maternity wing of the hospital. The C-Section medical records as per the guidelines of the NHM

⁹ Ratio of number of C-Section delivery and total delivery in percentage; absolute numbers are given in the bracket

¹⁰ Full-fledged DH started functioning from 02/2017

Assessor's Guidebook was not available in any of the test-checked facility, other than DH, Dhalai.

Government accepted (July 2020) the facts and stated that DH, Dhalai was following C-Section record as per Assessor's Guidebook and got LaQshya certificate from the Government of India. Government remained silent regarding non-adoption of C-Section records by other hospitals in the State.

6.3 Pregnancy outcomes

With a view to gauge the quality of maternity care provided by the hospitals, Audit test-checked pregnancy outcomes in terms of live births, stillbirths and neo-natal deaths pertaining to the period 2014-19, as discussed in succeeding paragraphs.

6.3.1 Stillbirths

The stillbirth rate is a key indicator of quality of care during pregnancy and childbirth. stillbirth and/or intrauterine foetal death is an unfavourable pregnancy outcome and is defined as complete expulsion or extraction of the baby from its mother with no signs of life. As per the GoI data¹¹, the rate of stillbirth in India is seven per thousand of live births. The trend of stillbirths in Tripura is given in **Table 6.9**.

Table 6.9: Number and rate of stillbirths in the State

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Total number of deliveries	51,514	50,953	49,477	51,833	50,343
Number of stillbirths	951	879	891	958	862
Rate of stillbirth per thousand of deliveries	18.46	17.25	18.01	18.48	17.12

Source: HMIS data

It can be seen from **Table 6.9** that the rate of stillbirths during 2014-19 in the State ranged from 17.12 to 18.48 which was much higher than the national average of seven.

Audit also observed that stillbirth rate was between 18.25 per thousand to 45.07 per thousand in the selected SH and the DHs during 2014-19 as shown in **Table 6.10**.

Table 6.10: Stillbirth rate in the selected SH and the DHs

Name of the health facility		2014-15	2015-16	2016-17	2017-18	2018-19
GBP Hospital	No. of deliveries	5480	5947	5896	6548	6757
	Stillbirths	247	240	247	292	287
	Rate of stillbirth	45.07	40.35	41.89	44.59	42.47
DH, Dhalai	No. of deliveries	888	1084	1044	1027	1205
	Stillbirths	29	23	23	27	22
	Rate of stillbirth	32.66	21.22	22.03	26.29	18.25
DH, Unakoti	No. of deliveries	The hospital started functioning from February 2017			1596	1554
	Stillbirths				54	41
	Rate of stillbirth				33.83	26.38

Source: Hospital records

¹¹ <https://data.gov.in>

It appears from **Table 6.10** that the rate of stillbirths in the selected State and District Hospitals was much higher than the State average rate. High stillbirth rates indicated lack of adequate antenatal care and delivery process in the test-checked hospitals. The high rate of stillbirths in the State Hospital which has optimum resources, is a matter of concern, requires comprehensive examination of causes and adoption of appropriate measures to arrest the trend.

Government stated (July 2020) that to prevent stillbirth, training for Medical Officers, Skilled Birth Attendant and staff nurse had been taken up for quality institutional delivery. It was also stated that to identify high risk pregnancy ANC were organised in the DH and SDH on 9th of every month under PMSM Abhiyan.

6.3.2 Neo-natal deaths

The Neo-natal Mortality Rate (NNMR) is defined as the number of infant deaths (less than 29 days of age) per thousand live births during the year. Neo-natal death rate is also an indicator of quality of maternity and newborn care services. M NH Toolkit requires hospitals to record the number of neo-natal deaths per month with causes of such deaths in the labour room register. As per the estimate by the UNICEF, the rate of neo-natal death in India is 2.2 *per cent* of live birth. Audit observed that the neo-natal death rate varied between 0.58 *per cent* to 6.66 *per cent*, in the selected SH and the DHs as shown in **Table 6.11**.

Table 6.11: Neo-natal death rate in the selected SH and the DHs¹²

Name of the Health Facility	2014-15	2015-16	2016-17	2017-18	2018-19
GBP, Hospital (181/5233)	3.46 (181/5233)	4.33 (247/5707)	6.66 (376/5649)	4.03 (252/6256)	3.80 (246/6470)
	1.51 (13/859)	2.26 (24/1061)	1.92 (20/1043)	1.80 (18/1000)	2.11 (25/1183)
DH, Unakoti	NA	NA	NA	0.58 (9/1542)	1.09 (17/1554)

Source: Hospital data

The neo-natal death rate in the State Hospital was much above the two test-checked DHs, and varied between 3.46 *per cent* to 6.66 *per cent* of the total deliveries, which needed urgent action for redressal, by the Department and the Government.

Government stated (July 2020) that to reduce neo-natal death, NBCC (New Born Care Corner) in all delivery points, New Born Stabilisation Unit (NBSU) at SDH and Special and New Born Care Unit (SNCU) at DH and State Hospital had been set up. HBNC (Home Based Newborn Care) was done by the ASHA till 42 days of age by six to seven visits.

HBNC services done by the ASHA workers, were not verifiable in absence of documents/ documentation of the visit and record of new born's health conditions in the MCP card of the beneficiaries.

¹² Ratio of neo-natal death to live births in percentage; absolute numbers are given in the bracket

6.3.3 Comprehensive abortion care (CAC)

Unsafe abortions due to pregnancy complications also contribute to maternal morbidity and mortality. MNH Toolkit prescribes the availability of Comprehensive Abortion Care (CAC) services at each hospital/CHC with deployment of MTP¹³ trained Medical Officer and availability of essential drugs.

Audit observed that CAC service was available to all the test-checked health facilities but availability and distribution of medicines could not be ensured due to non-maintenance of records.

Further, Audit observed that the rate of MTP to the reported delivery was highest in Unakoti District during 2014-15 to 2018-19 which was nearly three to four times to the State average. We did not observe any measures taken by the Department to identify reasons for such variation on record.

No reply was furnished by the Government (July 2020).

6.3.4 Failure of MCP card initiative

The Mother and Child Protection Card (MCP Card) has been introduced through a collaborative effort of the Ministry of Women and Child Development and the Ministry of Health & Family Welfare, Government of India. The MCP card is a tool for informing and educating the mother and family on different aspects of maternal and child care and linking maternal and childcare into a continuum of care through the Integrated Child Development Services (ICDS) Scheme of Ministry of Women and Child Development and the National Rural Health Mission (NRHM) of the Ministry of Health & Family Welfare (MoHFW). The card also captures some key services delivered to the mothers and babies during Antenatal, Intranatal & Post-natal care for ensuring that the minimum package of services is delivered to the beneficiary.

Audit noticed that for generation of unique Reproductive Child Health (RCH) ID for recording in the MCP card and online tracking of service delivery to each pregnant woman (PW), IT enabled system was in place in the PHC, CHC, SDH and DH but not available at the Health Sub Centre (HSC) level. Registration details of the PWs were carried by the Accredited Social Health Activist (ASHA) to the PHC, CHC for generation of RCH ID by the IT enabled system and thus, generation of RCH ID gets delayed, so RCH IDs were not immediately recorded in most of the MCP cards.

Verification of 40 MCP cards in the GBP Hospital and six MCP cards in Mandwi Uponagari village under Autonomous District Council (ADC) during patient survey revealed that RCH ID was not recorded in 18 cards at GBP Hospital and in five cards in Mandwi Uponagari ADC Village. Expected mothers were also not aware about the importance of the MCP card. Non-recording of RCH ID in the MCP card led to difficulty in online tracking of ANC details of the PW from the RCH portal, which is used to capture ANC related check-up details of the PW.

¹³ Medical Termination of Pregnancy

The deficiencies in data recording in the MCP card as well as in the RCH portal showed lack of monitoring by the Department over the functioning of ASHA workers, who are directly involved in filling the data in MCP card. The PW/LM stated that they were not aware about the Janani-Sishu Suraksha Karyakram (JSSK) while 90 *per cent* of the interviewed PW/LM had purchased medicines from open market during the time of treatment in the hospital.

Government accepted (July 2020) the facts and stated that there was 30 *per cent* shortage in the HMIS Assistant posts in the State due to poor salary which was responsible for the gap in the MCP card initiative. The Government also stated that new recruitment was going on. The reply does not address the fact of non-monitoring of existing systems and functioning of ASHA workers.

6.3.5 Postnatal maternal and new born care

Maternal mortality is a key indicator for maternal and child health. It can result from multiple reasons, such as medical, socio-economic and health system-related factors. Ensuring 48 hours stay in hospital during childbirth is an important component for identification and management of emergencies occurring during post-natal period and reducing MMR.

The position of women who were discharged within 48 hours of delivery in the three selected districts¹⁴ is shown in **Table 6.12**.

Table 6.12: Number of women discharged within 48 hours of delivery in the selected districts

Year	Dhalai			Unakoti			West Tripura		
	No. of ID ¹⁵	Discharged within 48 hours	Percentage	No. of ID	Discharged within 48 hours	Percentage	No. of ID	Discharged within 48 hours	Percentage
2014-15	4,931	2,967	60.2	2,821	993	35.2	17,519	7,141	48.7
2015-16	5,150	2,656	51.6	3,007	906	30.1	16,926	6,506	46.2
2016-17	4,933	2,018	40.9	3,292	10	0.3	16,896	6,500	45.9
2017-18	4,993	1,007	20.2	3,107	81	2.6	18,248	7,514	48.5
2018-19	5,335	180	3.4	2,742	26	0.9	18,344	6,074	38.1
Average			35.26			13.82			45.48

Source: HMIS data of test-checked districts

Table 6.12 shows that during 2014-19, average of the three districts with respect to minimum 48 hours of hospital stay for all women after delivery for proper post-natal care was 68.48¹⁶ *per cent*.

¹⁴ District wise data are available. The selected two DHs are under Dhalai and Unakoti Districts and the State Hospital fall under West Tripura District.

¹⁵ ID= Institutional Delivery

¹⁶ $100 - \{(35.26 + 13.82 + 45.48) / 3\}$

Test-checked DHs revealed the following:

In DH, Dhalai, PNC services are delivered to the PWs from the time of delivery of the babies till their discharge from the hospital, i.e., usually upto 48 hours. This gets extended in complicated and C-Section delivery cases. Records related to delivery of Postnatal Care Services (PNC) to the beneficiaries after discharge from the hospital are not available in DH, Dhalai.

In case of DH, Unakoti, date of discharges of the lactating mothers along with their new born are not entered in the admission/discharge register. So, delivery of PNC services in DH, Unakoti could not be examined in audit. However, household survey of three lactating mothers (conducted in January 2020) revealed that one lactating mother alongwith her new born were discharged within a few hours of delivery from the DH, Unakoti without recording the reason for early release in the Discharge Register.

Audit also observed that none of the selected CHC and the PHC maintained the PNC register and the required columns in the MCP card were not filled as proof of check-up and service delivery. Therefore, an assurance could not be derived in audit whether the prescribed post-partum health check-up of the mothers and new born were carried out by the PHC/ CHC test-checked in audit.

Government stated (July 2020) that ASHA workers provided postnatal care to the mothers and the babies till 42 days and got remuneration for complete visit, though records were properly not maintained.

Government reply is not tenable. Unless the postnatal condition of the new born and the lactating mother are recorded in the MCP card, the required service delivery could not be established and was non-verifiable.

6.3.6 Immunisation Services

As per the National Immunisation schedule by Government of India, newborns are to be administered doses of three vaccines viz. OPV, BCG and Hepatitis ‘B’ on the day of birth. Test-check of labour room records in respect of the test-checked hospitals, CHC and PHC revealed that necessary vaccines were available with the respective healthcare centres and babies were administered the birth dose vaccine as per the schedule.

Positive feature

Test-check of availability of vaccines at the DH, Dhalai revealed that all types of vaccines as recommended for the child upto the age of 16 years were available with the hospital throughout the year.



Photograph 6.1

Immunisation services at the District Hospital, Unakoti



Photograph 6.2

Conclusion

During 2014-19 Infant Mortality Rate (IMR) in the State saw a fluctuating trend. Though the IMR in the State was lower than the All India Average it increased to 20 in 2017-18 and came down to 17 in 2018-19. The MMR was lower than the All India Average and had declined to 74 in 2018-19. Audit noticed deficiencies in Antenatal Care (ANC) given in districts, to the pregnant women. On an average only 62.6 *per cent* of pregnant women registered themselves for ANC services, during the period 2014-19. The number of Pregnant Women (PW) given with IFA 100/180 tablets had declined from 60.1 *per cent* in 2014-15 to 56.5 *per cent* in 2018-19. Though the required facilities for pathological tests were available even in the PHC level health care facility centres, but the required tests were not carried out in each ANC for monitoring the health status of the PWs and recorded in the Mother Child Protection (MCP) card. High stillbirth rates in the State indicated lack of adequate antenatal care and delivery process in the test-checked hospitals. The deficiencies in data recording in the MCP card as well as in the RCH portal showed lack of monitoring by the Department over the functioning of ASHA workers, who are directly involved in filling the data in MCP card.

The neo-natal deaths in the State Hospital which saw the maximum deliveries in the State, also recorded high neo-natal deaths. Though the Department stated that ASHA workers monitor health of the new born babies by six to seven visits, the same was not verifiable, in absence of any records of the role played by the ASHA worker.

It was noticed that no separate arrangement for care of PW was made by any of the test-checked hospitals including the State Hospital, Agartala. Separate sanction of manpower, drugs and consumables was also found wanting in test-checked hospitals nor were any Departmental orders found for implementation. The State could utilise only ₹ 148 crore (36 *per cent*) of the total available funds of ₹ 414 crore under RCH, impacting the quality of services delivered to pregnant women and also compelling them to buy medicines from the market, when they were entitled to free medicines

under the programme.

The rate of institutional deliveries increased from 86.8 *per cent* in 2014-15 to 93.3 *per cent* in 2018-19 of the total deliveries in the State. The high rate of caesarean deliveries in the State Hospital (GBPH) (53 *per cent* to 56 *per cent* of total deliveries) was a matter of concern. Audit noticed that the mothers were discharged from the health care facilities after the birth of baby but medicines were provided to the mothers subject to their availability in the hospital. Thus, cash less motherhood as envisaged in the guidelines was not ensured. None of the test-checked CHC and PHC maintained the Postnatal Care Services (PNC) register. However, the immunisation programme for new born babies was successfully implemented in the test-checked DHs.

Recommendations

- *The Department may advise the District Hospital administration to ensure that details of health check-up and clinical diagnosis of pregnant women carried out during ANC, are properly recorded in the MCP card. Similarly, all post-natal care activities should also be recorded in the MCP card as per the provisions.*
- *Monitoring of maternal health care may be strengthened by recording ANC and PNC details in the MCP card.*
- *The District Hospitals need to specifically address adverse trends in stillbirth cases and neo-natal deaths.*
- *The benefits of the JSSK programme need to be disseminated to the beneficiaries and the Department needs to step up its spending under the RCH programme to provide quality services and free medicines to pregnant and lactating mothers.*

CHAPTER VII

CANCER CARE AND AIDS CARE

Chapter VII: Cancer Care and AIDS Care

Whether cancer care facilities and infrastructure for prevention of AIDS were adequate

7.1 Cancer care

7.1.1 Cancer scenario in India

According to the Report of Indian Council of Medical Research (ICMR), 2017-18, the estimated number of people living with cancer in India is around 2.25 million. Every year, over 11.57 lakhs new cancer patients are registered. Total deaths due to cancer in 2018 was 7.84 lakh in India. Risk of developing cancer before the age of 75 years is 9.81 *per cent* in males and 9.42 *per cent* in females.

7.1.2 Cancer in Tripura

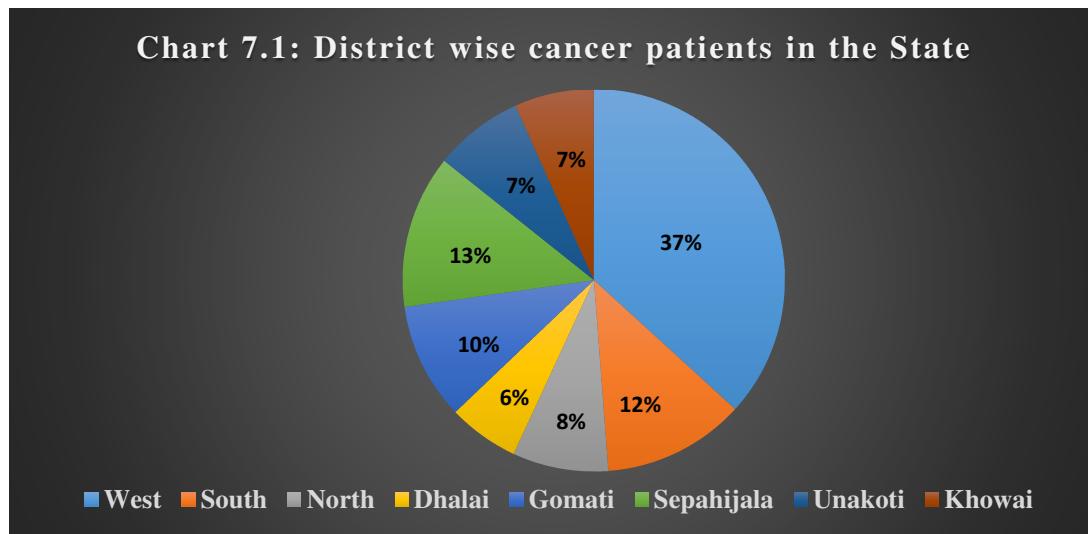
Report on Cancer Burden in North Eastern States of India (2017) published by the National Centre for Disease Informatics and Research under the Indian Council of Medical Research (ICMR) stated that cancer of Lung, Esophagus and Larynx are most common in men while cancer of Cervix, Breast and Gall Bladder are most common in women in Tripura. More than half of cancers in men are associated with the use of tobacco. High burden of risk factors such as tobacco, alcohol, obesity, etc. need to be addressed through appropriate prevention programmes and health education. The incidence of cancer in the State is given in **Table 7.1**.

Table 7.1: Number of cancer cases in the State during 2015 to 2019

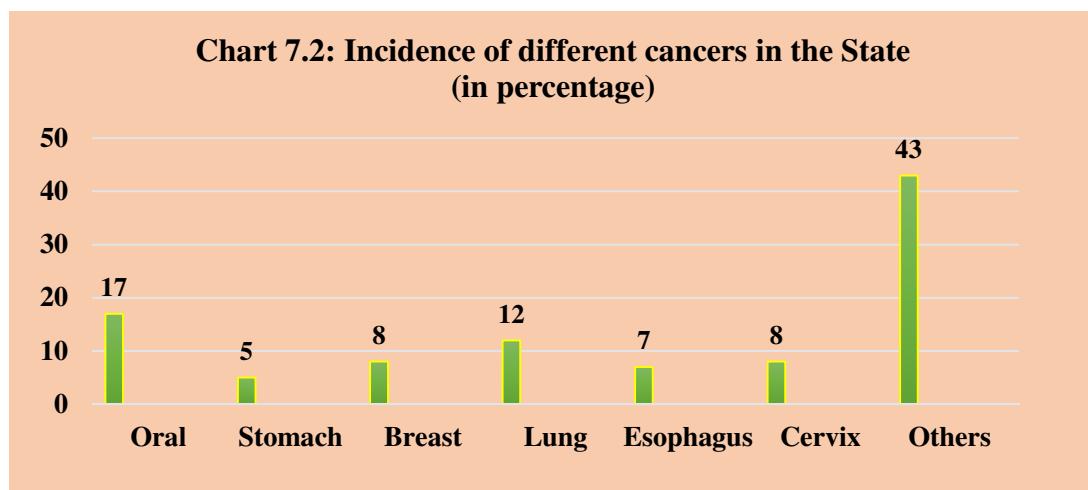
Year	2015	2016	2017	2018	2019
Number of Cancer cases	1691	1793	1900	1955	2615
Cancer cases per lakh of population	60	64	63	63	NA

Source: Data provided by the Regional Cancer Centre, Government of Tripura and Cancer Registry, ICMR

It could be seen that the number of cancer cases in the State has been showing an increasing trend during 2015 to 2019. However, the number of cancer cases per lakh of population was almost stagnant during 2016 to 2018. District wise incidence of cancers during 2014-19 in the State is given in **Chart 7.1**.



It could be seen from **Chart 7.1** that the West Tripura District accounted for *37 per cent* of the total cancer patients in the State followed by Sepahijala and South Tripura Districts with *13 per cent* and *12 per cent* patient respectively. Incidence of cancer in the State according to the type of the cancer is given in **Chart 7.2**.



It could be seen from **Chart 7.2** that six major types of cancer viz. Oral, Stomach, Breast, Lung, Esophagus and Cervix accounted for *57 per cent* of the total cancer patients in the State during 2014-19 while other category which includes Eye, Thyroid, Gall Bladder, Kidney, Ovary, Prostate, Penis, etc. accounted for the remaining *43 per cent*. Oral Cancer and Lung Cancer individually accounted for *17 per cent* and *12 per cent* of the total cancer patients in the State.

7.1.3 National Family Health Survey facts about cancer

National Family Health Survey (NFHS-4) 2015-16 was conducted by the Ministry of Health and Family Welfare, Government of India during January 2015 to December 2016 covering 6,01,509 households¹ in India and 4,510 households² in Tripura and the report was published in December 2017. Survey revealed the following facts on

¹ Women- 6,99,686 and Men-1,12,122

² Women-4,804 and Men- 821

the behavioural aspect of the people and cancer screening status of the women within the age group of 15-49 years which are tabulated in **Table 7.2**.

Table 7.2: Cancer screening and tobacco use behaviour

Sl. No.	Particulars of facts	Tripura		All India Average	
		2005-06	2015-16	2005-06	2015-16
Women age 15-49 years who underwent examination of					
1.	a) Cervix (<i>per cent</i>)	NA	5.10	NA	22.30
	b) Breast (<i>per cent</i>)	NA	1.30	NA	9.80
	c) Oral Cavity (<i>per cent</i>)	NA	6.80	NA	12.40
2.	Man who use any kind of tobacco (<i>per cent</i>)	76.00	67.80	57.00	44.5
3.	Woman who use any kind of tobacco (<i>per cent</i>)	48.20	42.20	10.80	6.80

Table 7.2 indicates that:

- In comparison to the All India Average of 22.30 *per cent*, only 5.10 *per cent* of the women in Tripura had undergone examination of the Cervix.
- In comparison to the status of examination of All India Average of 9.80 *per cent* and 12.40 *per cent* for Breast and Oral Cavity, the status of examinations in the State was only 1.30 *per cent* and 6.80 *per cent* respectively.
- Incidence of tobacco use on man was 67.80 *per cent* vs All India Average of 44.50 *per cent* while tobacco use on woman was significantly higher at 42.20 *per cent* in comparison to All India Average of 6.80 *per cent*.
- According to the ICMR Report³, around 54 *per cent* and 21 *per cent* of all cancers in males and females are respectively, associated with the use of tobacco. Among these, proportion of Lung, Esophagus and Mouth are high in both sexes.

ICMR recommends (Report on Cancer Burden in North Eastern States in India, 2017) that coverage of screening for breast, cervix and oral cancer needs to be improved and cancer treatment facilities, particularly radiotherapy, palliative care, etc. need to be established and strengthened.

7.2 Cancer screening facility in the State

Keeping in view that there are common preventable risk factors for Cancer, Diabetes, Cardiovascular Disease (CVD) & Stroke, Government of India initiated a National Programme for Prevention and Control of Cancers, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) during 2010-11. The focus of NPCDCS is on promotion of healthy life styles, early diagnosis and management of diabetes, hypertension, cardiovascular diseases & common cancers e.g. cervix cancer, breast cancer & oral cancer. Under the programme Non-Communicable Disease (NCD)

³ Report on Cancer Burden in North Eastern States of India, 2017

Cells are established at National, State and District levels for programme management and NCD Clinics are set up at District and CHC levels. In Tripura, there were 40 NPCDCS Clinics⁴ as given in detail in **Table 7.3**.

Table 7.3: Availability of NCD Clinics in the State

Sl. No.	Nature of health facility	Number of health facilities in the State	Availability of NCD Clinic	Percentage of availability
1.	State Hospital	6 ⁵	1	17
2.	District Hospital	6	6	100
3.	Sub Divisional Hospital	12	11	92
4.	Community Health Centre	22	18	82
Total		46	40	87

It can be seen from **Table 7.3** that 87 *per cent* of the health facility centres in the State were covered by NCD Clinics as per the NPCDCS programme and NCD clinics were available in all the DHs, while the availability in the SDH and CHC facilities were 92 *per cent* and 82 *per cent* respectively.

The NCD Clinics were offering cancer screening facility of oral cavity, clinical examination of breast and cervix. The staff posted in the NCD Clinics were trained on NPCDCS programme. After screening, the suspected patients were referred to the State Hospital i.e. AGMC & GBP for final diagnosis. AGMC and GBP Hospital referred the cases to Atal Bihari Vajpayee Regional Cancer Centre, Agartala for treatment.

It was noticed in audit that during 2017-18 and 2018-19, 10 suspected patients were referred to the AGMC & GBP hospital. However, number of patients who actually attended the AGMC & GBP and finally diagnosed and referred to the Regional Cancer Centre, Agartala was not found on record.

Government stated (July 2020) that Universal Population Based Screening (UPBS) for breast and oral cavity screening was started in the State in 2017 and screening procedure was going on through trained Community Health Officer (CHO) and expected to improve the overall performance. It was also stated that six numbers of Tobacco Cessation Clinics (TCC) had been established in the State to enhance the activities to reduce the tobacco burden in the community.

7.2.1 Screening of community for cancer

The Government of India adopted an operational framework for the country's first national cancer screening programme in November 2016. It was made mandatory for screening for oral, breast, and cervical cancer in people over the age of 30 in 100 districts of India.

⁴ Commonly known as NCD Clinic

⁵ Including Ayurvedic, Homoeopathic, Cancer Hospital, etc.

In Tripura, four districts⁶ were selected for Universal Population Based Screening (UPBS) Programme and status of screening and result thereof, are given in **Table 7.4.**

Table 7.4: Number of people screened under UPBS

(in numbers)

Year	No. of people screened	Cases detected		
		Oral	Breast	Cervix
2017-18	23,545	0	0	0
2018-19	28,484	6	3	0
Total	52029	6	3	0

Audit noticed that the programme was implemented by the NHM, Tripura and no annual targets were fixed for screening of population. Thus, performance on programme implementation could not be evaluated in audit. However, though the NHM, Tripura had kept an overall target of 8.49 lakh people for four districts⁷ as fixed, in 2017, they could cover only 0.52 lakh people during 2017-18 to 2018-19, which is merely six *per cent* of the targeted population. The progress of the programme was rather slow. Out of the two selected DHs, while DH, Dhalai was equipped with the diagnostic procedure including Biopsy and FNAC. The facility was not available in DH, Unakoti, depriving the population of basic screening facilities for detection of cancer.

Department replied (July 2020) that due to non-availability of infrastructure, logistics and resource persons, only preliminary management is being conducted at District Hospitals.

The reply of the Department is not acceptable because out of available funds of ₹ 18.56 crore received under NPCDS during 2016-18, the Department could utilise only ₹ 6.67 crore (i.e. about 36 *per cent*). Therefore, the plea of lack of resources is not sustainable.

7.2.2 Capacity building and training

Capacity building is fundamentally about improving effectiveness, at the micro and macro organisational levels, which improves the organisation's performance, enhances its ability to function, and continue to stay relevant within a rapidly changing environment. Under the Operational Guidelines of NPCDCS, health professionals and health care providers at various level of health care would be trained for health promotion, Non-Communicable Disease (NCD) prevention, early detection and management of cancer, diabetes, CVDs and stroke. For imparting training both for the programme management and for specialised training for diagnosis, treatment of Cancer, diabetes, CVDs and strokes, the nodal agency/agencies will be identified to develop the training material, organise training of health care providers at different levels and for monitoring the quality of the training.

⁶ West Tripura, South Tripura, Dhalai and Unakoti Districts

⁷ South Tripura, Unakoti, West Tripura and Dhalai Districts

Structures training programmes will be developed to provide quality training with appropriate curriculum to various category of staff.

The State level NPCDCS also conducted training to the Medical Officers (MOs), Staff Nurses (SNs), Auxiliary Nursing Midwives (ANMs), Multi-Purpose Workers (MPWs), etc. during 2017-18 to 2018-19 on cancer screening, UPBS, etc. as tabulated in **Table 7.5**.

Table 7.5: Status of training on cancer screening

Year	Category of trainees	No. of Trained persons	Area of training
2017-18	Medical Officers, Staff Nurse	18	Training of Trainers for ASHA, ANM
2018-19	Counsellor, Supervisor SN, ANM, MPW	263	Multi-skill and UPBS

Audit noticed that no annual target for training of MOs, SNs and others were fixed by the State NPCDCS Office, as such evaluation of performance could not be analysed in Audit. The linkages with NGOs/ private sector was also not established in the State.

Regarding fixing of annual target for training of MOs, SNs and others, no specific reply was furnished by the Government (December 2020) while for establishment of linkages with NGOs/private sector it was stated that no such provision was there in the Government of India guidelines. The view of the Government is not tenable as according to the NPCDCS guidelines, linkage with NGOs, civil society and private sector in health promotion for early diagnosis and treatment of common NCDs through appropriate guidelines as per the need at State, district level was supposed to be established.

7.2.3 Strategies for IEC and BCC activities

Information Education Communication (IEC) and Behaviour Change Communication (BCC) activities are very important health determinants. Promoting healthy behaviour to achieve the goal of health is key objective of health services. It can be achieved through health education and health behaviour change which are targeted for dissemination of correct information, motivation of people to adopt healthy life styles and guide people to avail of medical and health services for effective utilisation of health services.

During 2018-19 out of the total approved funds of ₹ 19.30 crore for IEC and BCC activities the expenditure incurred was ₹ 4.97 crore (26 *per cent*). Scrutiny of the IEC and BCC activities undertaken by the State level NPCDCS Unit during 2018-19 revealed that IEC and BCC activities were deficient and targeted activities could not be achieved and the funds remained unutilised. The details are given in **Table 7.6**.

Table 7.6: Table showing the status of IEC and BCC activities

Sl. No.	Name of the activity	Physical target	Achievement	per cent of achievement
2018-19				
1.	District level street drama, puppet show	40	17	43
2.	State level Newspaper/ flex/ souvenir	100	85	85
3.	District level telecast of average spots/ talk show	200	195	98
4.	Advt. through local cable channel and talk show	425	0	0
5.	Hoarding	20	0	0
6.	Newspaper advertisement and other advertisement	40	15	38
7.	Talk show/ Audio-Visual spot in Door Darshan	150	00	00
Total		975	312	32

While accepting the fact of short achievement, Government stated (July 2020) that the activities under IEC were being undertaken to overcome the menace of Cancer in the community and hoped that positive change would be reflected in the National Family Health Survey (NFHS) report in next two to three years.

7.2.4 Surveillance and monitoring mechanism

The purpose of monitoring and evaluation is to track implementation and outputs systematically, and measure the effectiveness of programmes. Monitoring and evaluation forms the basis for modification of interventions and assessing the quality of activities being conducted.

Audit noticed that the implementation of NPCDCS programme was not effectively monitored and monthly review meetings were not conducted regularly. During the year 2018-19 only three monthly meetings were held against the target of 12 monthly meetings.

The Government while accepting (July 2020) the fact stated that there was no provision of monthly meeting as per Record of Proceedings. The monthly meetings were conducted from the contingency fund of the said programme. The reply is not tenable as according to Para 1.4.10 of the NCD Programme guidelines, monitoring and evaluation of the programme should be carried out at different levels through NCD Cells, reports, regular visits to the field and periodic review meetings.

7.2.5 Treatment facility of cancer in the State and financial assistance to BPL patients

The Cancer Hospital, Agartala was established in the year 1980 with OPD service to cater the needs of the cancer patients of Tripura. The unit started delivering radiotherapy to patients from 1985. In the same year, IPD facility started with 50 bed capacity. The hospital was recognised as Regional Cancer Centre (RCC) by the

MoHFW in March 2008. Aims & objectives of RCC, Agartala are to provide treatment to cancer patients of the whole of the State of Tripura.

For treatment of BPL⁸ patients at the referral centers outside the State, the State Government constituted Tripura Health Assistance Scheme for Poor (THASP) and the BPL cancer patients get ₹ 1.25 lakh financial assistance out of THASP. During 2014-15 to 2018-19, 878 cancer patients applied for assistance under THASP and all the patients were sanctioned assistance under the scheme. Nine patients applied for assistance under the Rashtriya Arogya Nidhi (RAN)⁹ and all the applicants received assistance.

Conclusion

The incidence of cancer of Lung, Esophagus and Larynx are most common in men, while cancer of Cervix, Breast and Gall Bladder are most common in women in Tripura.

More than half of cancers in men are associated with the use of tobacco. Number of cancer cases in the State has been showing an increasing trend over the years. Awareness for screening of cancer was very poor among the people of the State and high incidence of tobacco use among both men and women was noticed. As regards screening for cancer, though the NHM, Tripura had kept an overall target of 8.49 lakh people for four districts¹⁰ as fixed, in 2017, they could cover only 0.52 lakh people during 2017-18 to 2018-19, which was merely six *per cent* of the targeted population. The progress of the detection programme was rather slow, despite availability of adequate financial resources to the NHM, Tripura. Out of the two selected DHs, while DH, Dhalai was equipped with the diagnostic procedure including biopsy and FNAC, the facility was not available in DH, Unakoti, depriving the population of basic screening facilities for detection of cancer. No annual targets were fixed for screening of cancer under Universal Population Based Screening (UPBS) programme thus deviating from the programme objectives.

IEC and BCC activities of the Department had failed to achieve the targeted milestones. The Department's monitoring of the NPCDPS programme was deficient and regular monitoring meetings were not held.

Recommendations

- Awareness and screening activities for cancer among the people of the State need to be scaled up. Screening facilities in DHs need to be ramped up with manpower and equipment.

⁸ Below Poverty Line

⁹ The Rashtriya Arogya Nidhi (RAN) has been set up in January 1997 to provide financial assistance to patients, living below poverty line and who are suffering from major life threatening diseases, to receive medical treatment at any of the super specialty Hospitals/Institutes or other Government hospitals.

¹⁰ South, Unakoti, West and Dhalai District

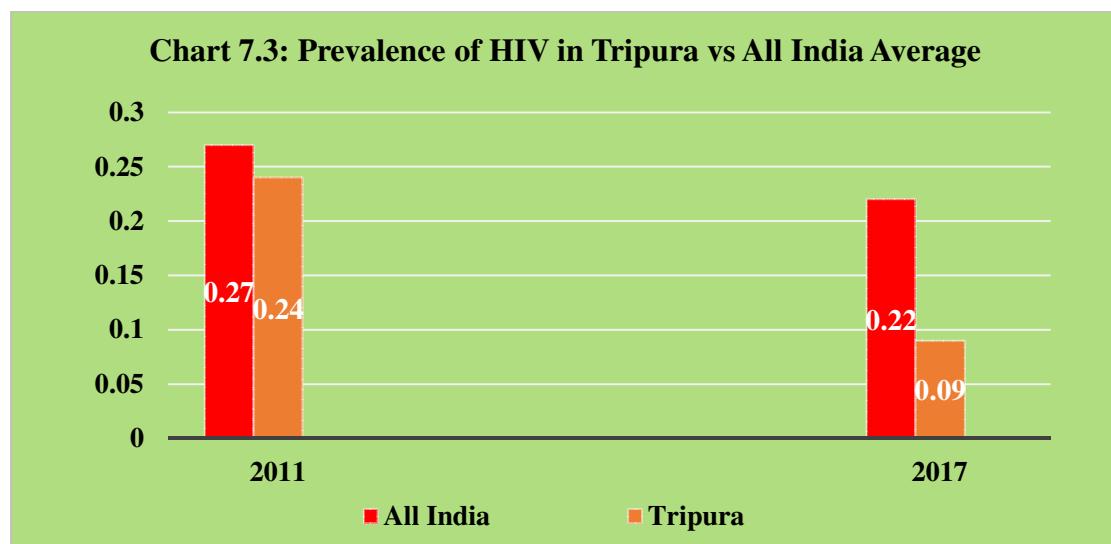
- Coverage under Universal Population Based Screening (UPBS) need to be target based and action plan need to be prepared in this regard.
- IEC and BCC activities need to be strengthened to cover the annual targeted interventions.
- The Department needs to step up its monitoring of the NPCDPS programme with regular and effective intervention in programme implementation.

7.3 AIDS care

Human Immunodeficiency Virus infection and Acquired Immune Deficiency Syndrome (HIV/ AIDS) is a spectrum of conditions caused by infection with the human immunodeficiency virus (HIV). HIV is spread primarily by unprotected sex, contaminated blood transfusions, hypodermic needles and from mother to child during pregnancy, delivery, or breastfeeding.

7.3.1 Major indicators

National AIDS Control Organisation (NACO), Ministry of Health and Family Welfare, Government of India periodically undertakes HIV estimations to provide the updated information on the status of HIV epidemic in India. The NACO estimates of percentage of HIV prevalence out of total number of adults (15-49 years) population in Tripura in comparison to All India Average is given in **Chart 7.3**.



The prevalence rate in the State has come down significantly from 0.24 to 0.09 during 2011 to 2017.

7.3.2 HIV trends in the State

Number of people found positive out of the tested cases and its trend during 2014-15 to 2018-19 is given below in **Table 7.7**.

Table 7.7: Trends of HIV in the State

Year	Total number of persons tested for HIV	Total number of HIV positive	Positivity rate (per cent)
2014-15	82442	264	0.32
2015-16	102089	295	0.29
2016-17	127201	321	0.25
2017-18	134715	306	0.23
2018-19	148046	338	0.23
Total	594493	1524	0.26

Number of tested persons and the number of infected cases increased over the years during the period covered in audit. However, percentage of incidence has shown a declining trend from 0.32 *per cent* in 2014-15 to 0.23 *per cent* during 2017-18 and 2018-19.

The incidence of HIV was higher in West Tripura and North Tripura Districts in the State which accounted for 77 *per cent* of all the positive patients in the State. Considering the incidence of HIV, one District AIDS Prevention and Control Unit has been set up in the Unakoti District (the erstwhile North Tripura District) while State AIDS Control Society ¹¹ is working in the State capital in West Tripura District.

7.3.3 Incidence of HIV in different categories of people

Incidence of HIV among the high risk group people *viz.* Female Sex Worker (FSW), Male having Sex with Male (MSM), Injectable Drug User (IDU), Migrant Labour (ML) and others¹² non-high risk group, are given in **Table 7.8**.

Table 7.8: Incidence of HIV on different groups of people

Year	Female Sex Worker (FSW)	Men having Sex with Men (MSM)	Injectable Drug User (IDU)	Migrant Labourers (ML)	Others	Total
2014-15	7	3	0	7	247	264
2015-16	8	6	11	7	263	295
2016-17	8	2	31	6	274	321
2017-18	8	2	28	8	260	306
2018-19	22	2	32	10	272	338
Total	53	15	102	38	1316	1524

Though the Government was significantly able to control the incidence of HIV in FSW (except 2018-19), MSM and ML, the incidence was rising in Injectable Drug User (IDU) and others category group of people who do not fall in the high-risk groups. Increasing number of incidence in the non-high risk group indicates gap in programme implementation, failure in creation of mass awareness, *etc.* as discussed in the succeeding paragraphs.

¹¹ National AIDS Control Programme under the Ministry of Health and Family Welfare, Government of India is being implemented in India through State AIDS Control Societies. In Tripura, programme is being implemented by the Tripura State AIDS Control Society (TSACS).

¹² Others' means the common people who do not belong to High Risk Group

No reply was furnished by the Government (December 2020).

7.3.4 Prevalence of HIV among children

Mother to child transmission of HIV is the spread of HIV from a woman living with HIV to her child during pregnancy, childbirth or breast feeding (through breast milk). According to the WHO, in absence of any intervention, transmission rates range from 15 *per cent* to 45 *per cent*. This rate can be reduced to below 5 *per cent* with effective interventions during the periods of pregnancy, labour, delivery and breastfeeding. The earlier HIV is detected, the sooner HIV medicines can be started. Pregnant women with HIV, should be administered HIV medicines to reduce the risk of mother-to-child transmission of HIV. When started early, HIV medicines are more effective at preventing mother-to-child transmission of HIV. The HIV medicines will also protect the women's health.

During field visit, audit noticed that ANC records of the pregnant mothers including the record for HIV tests, were not recorded in the MCP card though it was a mandatory test. Arrangement of ANC check-up through the ASHA worker is the responsibility of the National Health Mission while creation of awareness of HIV testing during ANC among the pregnant woman is the responsibility of the State AIDS Control Society. Audit noticed that both the agencies failed to perform their roles and responsibilities in ensuring the HIV testing at first ANC and recording the result in the MCP card. Thus, ensuring of HIV test protocol during ANC of pregnant woman was not confirmed in audit. Year wise trends of HIV positive among children is shown in **Table 7.9**.

Table 7.9: Year wise trends of HIV positive in 01-13 years children

Year	Age group of the children				Total
	1-2 years	2-5 years	5-10 years	10-13 years	
2014-15	3	7	2	1	13
2015-16	1	2	3	1	7
2016-17	0	6	0	1	7
2017-18	2	1	1	3	7
2018-19	6	4	3	1	14
Total	12	20	9	7	48

Government replied (July 2020) that testing of pregnant woman had been increased over the years and early screening had also been increased. As regards early infant diagnosis of HIV exposed babies, activities had been started from the year 2018-19, as a result HIV exposed babies were tested within 45-60 days of birth.

7.3.5 Availability of HIV care in the State

The HIV test facility centre and availability of Anti-Retroviral (ART) centre for distribution of medicines for after care is shown in **Table 7.10**.

Table 7.10: Availability of HIV test facilities and ART centre in the State

Sl. No.	No. of PHC, CHC, SDH, DH and SH in the State	No. of availability of test facility centre	Percentage of availability	No. of ART centre in the State
1.	162	157	97	3

It can be seen from **Table 7.10** that 97 *per cent* health care facility centres in the State are covered with HIV screening facility while anti-retroviral medicines are distributed to the HIV positive patients from three centres in the State.

7.3.6 Availability of manpower

Sanctioned strength and man-in-position of the Tripura State AIDS Control Society (TSACS) is given in the **Table 7.11**.

Table 7.11: Human resource availability in the TSACS

Financial Year	Sanctioned Strength	Man-in-Position	Percentage of shortage
2014-15	151	123	18
2015-16	151	121	20
2016-17	151	142	6
2017-18	161	136	16
2018-19	161	140	13

The Society was running with the shortage of six *per cent* to 20 *per cent* of manpower during the period of audit. It was noticed that though regular sanctioned posts were not filled by the Society, additional sanction of 10 posts were accorded to the Society in 2017-18 and only four persons were recruited during 2018-19 against 10 posts and overall vacancy stood at 21 at the end of 2018-19.

No reply was furnished by the Government (December 2020).

7.3.7 Decreasing IEC activities

The primary goal of such IEC program is to inspire and educate people about prevention, care and/or treatment of HIV/AIDS and for a better understanding of HIV in a more comprehensive way. The effectiveness of IEC materials largely depends on relevance, appeal, uniformity, simplicity of the content and language, accuracy of information, length of the material, cultural appropriateness, availability and modes of dissemination such as videos, brochures, posters, pamphlets, booklet and interpersonal communication. Designing and developing specific IEC materials targeting specific groups like adolescents, pregnant women, general population, school dropouts, bridge population like migrants, truckers, other high-risk groups like FSW, MSM and IDUs, People Living With HIV and AIDS (PLWHA) and their family members is also essential to change community attitudes.

Records of the Tripura State AIDS Control Society (TSACS) revealed a decreasing trend in all the components under the IEC activities.

Table 7.12: Status of IEC activities for prevention of AIDS

Financial Year	IEC Activities and different components				
	Mass Media Activities	Mid Media Activities	IEC Material	Youth Activities	Main streaming and GIPA¹³ activities
2015-16	3219	560	75500	91	2315
2016-17	2319	175	85000	143	1110
2017-18	1559	501	10000	46	1374
2018-19	1329	25	30000	56	111

IEC activities have shown a decreasing trend, during 2015-16 to 2018-19. The Department also failed to utilise the available funds approved by NACO in all five years 2014-15 to 2018-19 covered in audit. The Department could utilise ₹ 2.43 crore (61 per cent) out of the total available funds of ₹ 4.01 crore during 2014-19.

Government stated (July 2020) that HIV prevalence in different categories of people did not increase or decrease only for the IEC activities and in respect of IDUs, the State of Tripura was in a good position in comparison to other North Eastern States. However, the reply did not state the reason for increase number of incidences of HIV positive cases in the State.

7.3.8 HIV test facility of the truckers

Workers in the transport sector are vulnerable to human immunodeficiency virus (HIV) infection and other sexually transmitted infections (STIs).

Due to frequent mobility, Long Distance Truck Drivers (LDTDs) lack access to general health care, and low contact with HIV intervention programs restricts their demand in seeking health care in general and sexual and reproductive health care in particular.

With a view to provide HIV screening facility to the truckers entering the State carrying goods from outside, the Tripura State AIDS Control Society (TSACS) decided (June 2018) to open a HIV screening facility at Churaibari, the entry point to the State. However, the facility could not be operationalised on regular basis even after two years. Moreover, a test facility centre was established at the Inter State Truck Terminus (ISTT) near the capital city, Agartala in collaboration with Apollo Tyres, India by the TSACS, was also found working for a limited period in the daytime from morning 9.00 AM to 3.30 PM at the registration charge of ₹ 20 per month. The initiatives made were largely ineffective as the Government could not post regular staff for operationalising the centre and due to limited testing and awareness programme.

Thus, though the prevalence rate of HIV in the State witnessed a lower trend but to contain the spread among the non-infected persons as well as to prevent transmission

¹³ GIPA or the “Greater involvement of people living with HIV/AIDS” is a principle that aims to realise the right and responsibilities of people living with HIV, including their right to participation in decision-making procedures that affect their lives (Source: <https://www.unaids.org>).

from mother to child, more concerted effort need to be taken by greater awareness spread activities.

Government stated (July 2020) that stand alone HIV screening facility at Churaibari Truck Terminus would be running smoothly as soon as the manpower is at place. Recruitment procedure was almost done. It was also stated that Truckers Intervention project had been sanctioned by the NACO for providing service to the 5,000 Truckers population in the North and Dhalai Districts in the State.

7.3.9 Monitoring of the programme

Monitoring and evaluation helps project managers in keeping track of the implementation of the projects and its prudence in the utilisation of the resources. It provides decision makers with a strategy to plan for sustainability of the projects and guidance for future endeavours.

Monitoring meeting held in the Tripura State AIDS Control Society for monitoring and evaluation of programme implementation during 2014-15 to 2018-19 is given in **Table 7.13**.

Table 7.13: Monitoring activities of AIDS programme

Sl. No.	Financial year	No. of monthly meetings held (per cent of total)	No. of annual General Body meeting held (in per cent)
1.	2014-15	8 (66.67)	1 (100)
2.	2015-16	8 (66.67)	1 (100)
3.	2016-17	12 (100)	1 (100)
4.	2017-18	12 (100)	0 (0)
5.	2018-19	12 (100)	1 (100)

Audit noticed that a good monitoring mechanism exists for evaluation of programme implementation and evaluation of targeted intervention in prevention. Except during 2104-15 and 2015-16, all the monthly meetings were held and regular annual General Body meetings were held except in 2017-18, due to State Assembly election as stated by the Tripura State AIDS Control Society.

Conclusion

Prevalence rate of HIV in adult (15-49 years) population of the State came down significantly from 0.24 to 0.09 during 2011 to 2017 and remained well below the All India Average of 0.22 in 2017.

Incidence of HIV was increasing among the non-high risk group population and children. IEC activities were found deficient and failed to create awareness for early HIV tests during pregnancy and also to the population belong to the non-high risk group.

Recommendations

- *Reasons for increasing incidence of HIV among the non-high risk group population may be analysed by the Department and appropriate strategy to curb the prevalence needs to be adopted.*

- *Information Education Communication (IEC) activities need to be strengthened.*
- *For prevention of mother to child transmission of AIDS, early HIV tests during pregnancy may be ensured and recorded in the Mother and Child Protection (MCP) card.*
- *The Inter State Truckers may be encouraged to undergo HIV testing and the HIV screening facility at the entry point at the State may be operationalised for 24x7.*

CHAPTER VIII

EVALUATION OF IN-PATIENT SERVICES THROUGH OUTCOME INDICATORS

Chapter VIII: Evaluation of In-Patient Services through Outcome Indicators

8.1 Introduction

This chapter presents an assessment of overall health indicators of the State and the IPD services provided during 2014-19 in the test-checked State Hospital¹ and DHs based on certain Outcome Indicators (OIs) prescribed in IPHS guidelines, *viz.*, Bed Occupancy Rate (BOR), Leave Against Medical Advice (LAMA) Rate, Absconding Rate and Referred Out Rate (ROR).

Table 8.1 gives the categorisation and methodology of evaluating these OIs.

Table 8.1: Calculation of quality indicators

Type	Quality Indicator	Numerator	Denominator
Productivity of hospital	BOR (in <i>per cent</i>)	Total patient bed days X 100	Total No. of functional beds X No. of days in a month
Service quality of hospital	LAMA (Rate/1000)	Total No. of LAMA X 1000	Total No. of admissions
	Absconding (Rate/1000)	Total No. of Absconding cases X 1000	Total No. of admissions
Efficiency	ROR (in <i>per cent</i>)	Total No. of cases referred to higher facility	Total No. of admissions

Source: IPHS

8.2 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 norms, the BOR of hospitals should be at least 80 *per cent*. The BOR of the test-checked DHs and GBP Hospital during 2014-19 is given in **Table 8.2**.

¹ There is no sanctioned strength for GBP State Hospital. However, GBP Hospital has been evaluated with IPHS norms for DH having 500 bed capacity.

Table 8.2: BOR of the test-checked DHs and AGMC & GBP Hospital

Sl. No.	Hospital	BOR (per cent)
1	AGMC & GBP	139
2	DH, Dhalai	52
3	DH, Unakoti	61

Source: Records of test-checked hospitals; benchmark: 80 per cent

The BOR of the GBP Hospital with 139 *per cent* was highest among the test-checked hospitals being the State level referral hospital indicating excess patient load over the bed capacity while both the test-checked DHs were operating with lower BOR than the IPHS benchmark.

Higher bed occupancy rate in the State Hospital was also indicative of the fact that people from the districts were moving to the State Hospital for better quality service. This was evidenced by the patient survey in the Maternity Ward of the GBP Hospital conducted in February 2020 where 50 *per cent* of the patients were from different districts of the State, despite having a full-fledged District Hospitals at their home districts.

Excess patient over the bed strength in the GBP Hospital indicated the need for expansion of the hospital capacity. During patient survey it was noticed that the patients were accommodated in the floor of the ward and some patients were even accommodated on the corridor of the Hospital as shown in **Photographs 8.1 and 8.2**.



Photographs 8.1 and 8.2: Patients were accommodated on the floor of the ward and hospital corridor in the AGMC and GBP Hospital

8.3 Referred out Rate (ROR)

As per IPHS norms, referral services to higher centres denote that the facilities for treatments were not available in the hospitals. **Table 8.3** gives the Referred Out Rate (ROR)² in the three test-checked hospitals during 2014-19.

Table 8.3: ROR of the test-checked DHs and AGMC & GBP Hospital

Sl. No.	Hospital	ROR (per 1000)
1	GBPH	10
2	DH, Dhalai	82
3	DH, Unakoti	37

Source: Records of test-checked DHs and SH; weighted average: 72

Thus, DH, Dhalai, with ROR of 82 out of 1,000 patients was the highest amongst the test-checked hospitals, indicating that health care facilities were not adequate in this hospital. This stands confirmed based on the audit findings in the earlier chapters of the Report here.

8.4 LAMA and Absconding Rate in DHs

Leaving the hospital against the physician's advice is known as Leave Against Medical Advice (LAMA) and Absconding refers to patients who leave the hospital without informing the hospital authorities. Patients who leave the hospital without physician permission before completing 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 re-admission. We evaluated LAMA Rate (per 1,000) and Absconding (Abs) Rate per 1,000 in the test-checked DHs and the State Hospital (GBPH) during 2014-19 which is given in **Table 8.4**.

Table 8.4: LAMA and Absconding rate of the test-checked DHs and GBP Hospital

Sl. No.	Hospitals	LAMA rate (per 1,000)	Absconding rate (per 1,000)
1	GBPH	70	7
2	DH, Dhalai	60	4
3	DH, Unakoti	79	1

Source: Records of test-checked DHs and SH; weighted average of LAMA and Absconding Rate are 73 and four respectively

In DH, Unakoti, Leave Against Medical Advice was very high while in the GBP Hospital absconding rate was high.

² ROR= (No. of Referred out cases x 1,000) ÷ No. of New admission

8.5 Outcomes vis-à-vis Availability of Resources

Table 8.5 shows the relative performance of the test-checked hospitals on various outcome indicators worked out by audit and the corresponding availability of resources.

Table 8.5: Outcomes vis-à-vis availability of resources in District Hospitals

Hospital	Outcome Indicators				Availability of resources		
	BOR (per cent)	ROR per 1,000	LAMA per 1,000	Abs. Rate per 1,000	Doctors (per cent)	Nurses (per cent)	Essential drugs (per cent)
GBPH	139	10	70	7	382	181	18
DH, Dhalai	52	82	60	4	91	52	36
DH, Unakoti	61	37	79	1	79	54	38
<i>Benchmark³</i>	80-100%	24	70	6	100%	100%	100%

Source: Records of test-checked DHs and SH

As seen from **Table 8.5**, every hospital relative to the other test-checked DHs and State Hospital underperformed on at least one outcome indicator. DH, Dhalai, had low bed occupancy and an alarmingly high referred out rate of 82 per 1,000 indicating that this hospital had struggled to provide quality services.

The LAMA Rate was high in DH, Unakoti at 79 per 1,000 while Absconding Rate was seven per 1,000 in GBP Hospital respectively.

Conclusion

The DH, Dhalai, had low bed occupancy and an alarmingly high referred out rate of 82 per 1,000 indicating that this hospital had struggled to provide quality services; The LAMA Rate was high in DH, Unakoti at 79 per 1,000 while Absconding Rate was seven per 1,000 in GBP Hospital, respectively. DHs were incapable of providing quality health care for serious/major diseases and beneficiaries were travelling to the State level hospital in West Tripura District, as reflected in their abnormally high BOR of 139 *per cent*.

³ Benchmarks: BOR – as per IPHS, Weighted average for rest of the outcome indicators, 100 *per cent* (sanctioned strength) for availability of doctors, IPHS norms for nurses and for essential drugs, it was based on stock position during 2014-15 to 2018-19 as per the Essential Drugs List (EDL) of the respective hospitals

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 in the Department 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 hospitals may also be addressed by improving counselling services.*
- iii. *State Government may consider expansion of bed capacity of the State Hospital keeping in view the increasing patient load, with all ancillary arrangements.*



Agartala
The 09 July 2021

(BIVASH RANJAN MONDAL)
Principal Accountant General (Audit), Tripura

Countersigned



New Delhi
The 14 July 2021

(GIRISH CHANDRA MURMU)
Comptroller and Auditor General of India

APPENDICES

Appendix 3.1

Statement showing total number of posts under different categories under National Health Mission, Tripura approved by the GoI during the period from 2014-15 to 2018-19 as per the Record of Proceedings (ROPs)
(Reference: Paragraph No.3.1.1)

Approved Posts	2014-15	2015-16	2016-17	2017-18	2018-19
ANM	208	196	196	196	58
Staff Nurse	0	3	28	47	49
Lab. Tech.	65	68	68	77	65
Pharmacist	107	108	109	131	126
Other Tech/Radiographer/ X-Ray Tech. etc.	0	0	15	12	12
Dietician/ Nutritionist	2	4	2	2	2
Specialists	0	11	35	26	37
Dental Surgeons/MOs	71	71	71	57	51
MO-Ayush	92	96	96	229	229
Pharmacist-Ayush	0	0	0	33	33
MO-MBBS & Dental	0	6	10	9	6
Physiotherapist	0	3	3	10	10
Audiologist & Speech Therapist	0	3	3	3	3
Psychologist	0	3	3	3	11
Optometrist	0	3	3	3	3
Dental Tech.	0	3	3	3	3
Blood Bank Tech.	0	0	3	10	10
Counsellor	81	42	0	38	29
Total	626	620	648	889	737

Appendix 3.2

Statement showing the number of PG students passed from AGMC during 2014-19 and their status of engagement in the State Government
(Reference: Paragraph No.3.1.3)

Year	Total no. of PG Students passed out from AGMC under State Quota	In service candidates sponsored by State Government	Candidates under Open Quota	Engagement in Government service after completion of PG Course
2014	13	9	4	9
2015	17	15	2	15
2016	17	15	2	15
2017	15	13	2	13
2018	19	15	4	15
2019	13	9	4	9
Total	94	76	18	76

Appendix 3.3

Position of availability and stock out position of medicines in the SH and the selected DHs
(Reference: Paragraph No.3.4.1)

AGMC & GBP Hospital							
Year	Number of essential drug list (EDL)	Number of EDL available	Stock out from available EDL	No. of medicine out of stock from 0 to 100 days	No. of medicine out of stock from 101 to 200 days	No. of medicine out of stock from 201 to 300 days	No. of medicine out of stock 300 days and above
2014-15	333	46 (14 per cent)	37	9	8	9	11
2015-16	333	33 (10 per cent)	26	8	3	6	9
2016-17	333	54 (16 per cent)	43	9	8	16	10
2017-18	333	67 (20 per cent)	47	12	13	11	11
2018-19	333	93 (28 per cent)	82	17	22	26	17
	Average	59 (18 per cent of the EDL)	47 (80 per cent of availability)	11 (23 per cent)	11 (24 per cent)	13 (29 per cent)	12 (25 per cent)
DH, Dhalai							
2014-15	215	63 (29 per cent)	24	2	2	0	20
2015-16	215	52 (24 per cent)	13	2	3	1	7
2016-17	215	69 (32 per cent)	77	2	1	1	73
2017-18	215	112 (52 per cent)	67	8	0	2	57
2018-19	215	89 (41 per cent)	80	7	6	1	66
	Average	77 (36 per cent of EDL)	52 (68 per cent of availability)	4 (8 per cent)	2 (5 per cent)	1 (2 per cent)	45 (85 per cent)
DH, Unakoti							
2017-18	215	70 (33 per cent)	64	18	9	27	10
2018-19	215	92 (43 per cent)	83	31	22	20	10
	Average	81 (38 per cent of EDL)	74 (91 per cent of availability)	25 (33 per cent)	15 (21 per cent)	24 (32 per cent)	10 (14 per cent)

Appendix 4.1

Analysis of surgeries performed by the doctors in selected DHs
(Reference: Paragraph No.4.2.4.1)

Name of the health facilities	Year	Major surgeries performed per surgeon				
		General	Lower Segment Caesarean Section	Others	Orthopaedics	Total
DH, Dhalai	2014-15	0	35	13	0	48
	2015-16	0	92	14	0	106
	2016-17	0	68	06	0	74
	2017-18	0	52	11	0	63
	2018-19	100	18	19	52	189
Total		100	265	63	52	480
DH, Unakoti	2017-18	41	320	01	28	390
	2018-19	14	276	01	37	328
Total		55	596	02	65	718
Total		155	861	65	117	1198

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