सत्यमेव जयते

Report of the Comptroller and Auditor General of India on District Hospital Outcomes in Jharkhand

लोकहितार्थ सत्यनिष्ठा
Dedicated to Truth in Public Interest

Government of Jharkhand

Report No. 3 of the year 2021
(Performance Audit)

Report of the
Comptroller and Auditor General of India
on
District Hospital Outcomes in Jharkhand

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Preface

This Report of the Comptroller and Auditor General of India has been prepared for submission to the Governor of Jharkhand under Article 151 of the Constitution of India for being laid before the State Legislative Assembly.

A Performance Audit of District Hospital Outcomes in Jharkhand, covering the period 2014-19, was carried out during 2019-20 with the objective of assessing the quality of medical services and patient care being provided by District Hospitals (DHs) in the State.

The Report has been prepared in accordance with the Performance Auditing Guidelines and Regulations on Audit and Accounts of the Comptroller and Auditor General of India.

Executive Summary

About the Report:

There is a critical requirement for sustained and determined action to close the gap between patient care received and the target outcomes in District Hospitals (DHs).

It is in this backdrop that the Performance Audit of District Hospital Outcomes in Jharkhand, covering the period 2014-19, was carried out during 2019-20 with the objective of assessing the quality of medical services and patient care being provided by DHs in the State.

Why have we prepared this Report now?

We have audited the health sector and presented the findings in various Union and State Reports to the Parliament and Legislature of different States over the last decade. All India Performance Audit of National Rural Health Mission (NRHM) was conducted and findings were presented in Union Report No. 8 of 2009-10. More recently, Union Report No. 25 of 2017 on NRHM- Reproductive and Child Health Component was laid in the Parliament. Besides, Performance Audit of NRHM in the State of Jharkhand was conducted for the period 2011-16 and a Report was laid in the State Legislature on 12 August 2017.

All these earlier reports had focused on compliance issues, inadequacies and mismatch of inputs and outputs, efficiency of quality assurance mechanism and effectiveness of monitoring etc. Keeping in view the goals laid down in the National Health Policy and expected outcomes of Sustainable Development Goal 3 at the global level, evaluating the outcomes has become crucial for timely and systematic corrections. In this context, we have tried to assess the outcomes in this audit with a view to ascertain the quality of healthcare being made available to people through the existing policy interventions. This Report aims at identifying the areas that require corrections and improvement.

What has been covered in this audit?

In this outcome based audit, we have focussed on patient care received at the DHs in the State. Various services like Out-Patient and In-Patient Services, Maternity Services, Diagnostic Services, Infection Control and Drug Management have been assessed on the basis of pre-determined criteria in the sampled DHs. We have also used pre-determined outcome indicators for assessing In-Patient Services.

What have we found and what do we recommend?

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

Policy framework for healthcare services

Audit observed that the Department did not formulate its own standards/ norms to ensure availability of all types of resources and services in adequate quantum in DHs in respect of out-patient and in-patient services, pathology investigations and human resources. As a result, a methodical gap analysis was not carried out. The absence of standards/norms would, and has, impacted the availability of resources and services in the hospitals.

Recommendation:

- ***The State Government should ensure that the existing standards and norms for provisioning of services and resources for the district hospitals are strictly followed. Punitive action should be taken against officials for intentional violation of norms or negligence in services.***

Out-Patient services

We found that the patient load in the Out-Patient Departments (OPDs) had increased by 57 *per cent* in 2018-19 in the test-checked DHs compared to 2014-15. Despite increase in the number of patients in OPDs, each OPD clinic was being run by a single doctor leading to increase of patient load per doctor per day. Heavy patient load per doctor per day in the six test-checked DHs, especially in general medicine OPD (between 79 and 325 patients), in gynaecology OPD (between 30 and 194 patients) and in paediatrics OPD (between 20 and 118 patients) adversely impacted consultation time which was less than the suggested minimum consultation time of five minutes. Despite high patient load and consequently low consultation time, test-checked DHs did not deploy more than one doctor in these OPDs for giving better health care services. Less consultation time is directly linked with patient's dissatisfaction with the consultation process.

Waiting times for patients were also impacted since the number of registration counters were not commensurate with the increase in the daily patient load, exacerbated in some of the test-checked DHs by a lack of suitable seating facility and toilets and an overall weak grievance redressal system.

Recommendations:

- ***Consultation time may be reviewed and sufficient doctors deployed in identified OPDs with low consultation time to ensure patients satisfaction with the consultation process.***

- ***The inequities in the number of registration counters vis-à-vis the rising patient load should be addressed to reduce waiting time for patients and seating/toilet facilities should be improved.***

➢ ***The grievance redressal mechanism should be revamped and activated in all DHs to improve performance.***

Diagnostic services

Diagnostic services, both radiological and pathological, were deficient in terms of availability of functional equipment, consumables and human resources in the test-checked DHs. A majority of the test-checked DHs did not have the requisite range of X-ray machines. Ultrasonography (USG) facility was not available in two DHs and Computed Tomography (CT) scan was not available in any of the test-checked DHs.

There were serious gaps in the availability of essential pathological investigations in all the test-checked DHs; whereas the functions of in-house pathology services were marred by shortage of lab technicians and essential equipment.

Owing to lack of monitoring of the time lag between receipts of samples and reporting of results of investigations to the patients, minimum efficiency standards in pathology services remained a challenge.

Recommendation:

➢ ***The availability of essential radiological and pathological equipment, all types of pathological investigations and required manpower as per existing standards and norms should be ensured at DHs.***

In-Patient services

There were significant deficiencies in the availability of in-patient services such as Burn ward, Ear Nose and Throat (ENT), Accident and trauma ward as well as indoor services for Psychiatry in the test-checked DHs.

In-patient services in the different DHs also varied in terms of the availability of resources.

➢ There was shortage of doctors ranging between 19 and 56 *per cent* in the six test-checked DHs. The test-checked DHs also had shortage of 9 to 18 specialists. Further, none of the test-checked DHs had specialists of AYUSH, Dermatology, Microbiology and Forensics.

➢ In the six test-checked DHs, shortage of paramedics ranged between 43 and 77 *per cent* whereas that of staff nurses ranged between 11 and 87 *per cent*.

➢ Operation Theatres (OTs) for ENT and Orthopaedics were not available in any of six test-checked DHs whereas OTs for emergency services was not available in five DHs. There was shortage of equipment and drugs in all the OTs of the test-checked DHs.

➢ Out of six test-checked DHs, records of OT procedures were maintained only in DH East Singhbhum. While three DHs (Deoghar, Palamu and Ramgarh) did not maintain any records, it was partially maintained in

DHs, Hazaribag and Ranchi. In the absence of or partial maintenance 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.

- Intensive Care Units (ICUs) were established only in nine[1] DHs between July 2016 and May 2017 out of the 23 DHs in the State. Further, shortage of equipment and drugs were noticed in ICUs in the six test-checked DHs. Thus, critical care to patients was not adequate and they were likely to have been referred to higher government health facilities.
- Separate Accident and Trauma ward for providing better care to patients were not available in five test-checked DHs except DH, Hazaribag and patients were referred to the nearest higher government health facility.
- Though prescribed in IPHS, none of the six test-checked DHs had a system for quality testing of the diet provided to in-patients.
- Disaster Management Plan (DMP) was prepared only in one (East Singhbhum) out of six test-checked DHs. Thus, five DHs[2] lacked proper plan in case of any kind of disaster.
- Desired Bed Occupancy Rate (BOR) of more than 80 *per cent* was not achieved by the test-checked DHs except for two DHs (Palamu and Ramgarh) which achieved the same in some months. However, improvement in BOR was visible in May 2018 with respect to May 2014 in all the test-checked DHs except DH, Palamu where it decreased to 50 *per cent* in May 2018 from 54 *per cent* in May 2014.
- Bed Turnover Rates (BTR) of two DHs (Deoghar and East Singhbhum) was much lower compared to BTRs of the other test-checked DHs which indicated comparative inefficiency in these hospitals.
- Leaving Against Medical Advice (LAMA) Rate was high in three DHs (Deoghar, Hazaribag and Palamu) which indicated that the quality of healthcare services in these hospitals was poor.

Recommendations:

- ***Government should proactively synergise availability of specialised in-patient services along with essential drugs, equipment and human resources in DHs to ensure access of the public to quality medical care.***
- ***All essential IPD services including ICUs and Burn Ward facilities should be ensured at all DHs with appropriate resources so that critical patients get immediate treatment.***

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1 Deoghar, Dumka, Godda, Jamtara, Bokaro, Simdega, Sahibganj, Palamu and West Singhbhum.

2 Deoghar, Hazaribag, Palamu, Ramgarh and Ranchi.

- ***Quality standards should be ensured with respect to diets provided to in-patients.***

Maternity services

Significant deficiencies were observed in all the four major components of facility based maternity services - Antenatal care, Comprehensive Abortion Care (CAC) services, Intra-partum care or delivery care and postpartum care:

- Out of 1.30 lakh pregnant women (PWs) registered in the six test-checked DHs during 2014-19, 51,526 (40 *per cent*) PWs were not provided the complete cycle of ANC. Of the registered PWs, 77,762 (60 *per cent*) PWs were not provided first tetanus toxoid (TT) injection, 85,743 (66 *per cent*) PWs were not provided second TT injection and 54,539 (42 *per cent*) PWs were not provided iron and folic acid (IFA) tablets. This is an area of concern as lack of adequate ANC services are directly linked with increase in the number of stillbirths and children with low birth weight.

- Essential drugs were not available in maternity IPDs which included Hydralazine in all the six test-checked DHs; Dopamine/Methyldopa in five test checked DHs except in Ramgarh; Adrenaline, Calcium Gluconate and Diazepam in four DHs except in East Singhbhum and Ramgarh; Ampicillin in four DHs except in East Singhbhum and Ranchi and Gentamycin in three DHs (Hazaribag, Palamu, and Ranchi).

- Essential consumables like draw sheets, identification tags and threads for sutures were not available in the test-checked DHs. Baby wrapping sheets were not available in two DHs (East Singhbhum and Hazaribag) and Nasogastric tubes were not available in three DHs (Deoghar, Hazaribag and Palamu).

- Test-checked DHs did not have essential equipment in maternity IPDs. Partographs, which enable the birth attendant to identify and manage complications of labour promptly, were not plotted in most of the cases in the test-checked DHs.

- Purchase of equipment for twelve bedded Special Newborn Care Units (SNCUs) was under process as of June 2020 at three test-checked DHs (East Singhbhum, Ramgarh and Ranchi).

- In the six test-checked DHs, it was observed that 77 to 89 *per cent* of mothers were discharged from the hospital within 48 hours of delivery and as such immediate management of post-partum complications was not ensured.

- Out of 362 test-checked cases during 2016-19, 310 eligible beneficiaries were paid cash assistance under *Janani Suraksha Yojana* (JSY) after one month of delivery including 97 beneficiaries who were paid after more than six months. Further, eight beneficiaries were not paid as of March 2020. Delay/ non-payment of cash assistance defeated the objectives of Scheme.

- Stillbirth rate was between 1.08 and 3.89 *per cent* in the six test-checked DHs during 2014-19. In three DHs (Palamu, Deoghar and Hazaribag), stillbirth rates were high (ranging between 2.09 and 3.89 *per cent*) which was significantly higher than the average State rate of one *per cent* and the average national rate of 0.7 *per cent*.

Recommendations:

- ***Prescribed intra-partum and post-partum care should be ensured to minimise adverse pregnancy outcomes.***
- ***SNCUs should be made functional in all DHs.***
- ***Payment of cash assistance under JSY should be ensured prior to discharge of beneficiary from the hospital.***

Infection control

Infection control practices were not sufficiently embedded in the functioning of DHs. DHs lacked standard operating procedures (SOPs)/checklists for hygiene and infection control; disinfection and sterilisation of medical tools, instruments and equipment etc. Infection control practices were mostly limited to boiling and autoclaving. DHs also lacked liquid chemical sterilisation and high-level disinfection facilities.

- SOPs for housekeeping were not available in five test-checked DHs except at East Singhbhum. Despite outsourcing, cleaning services were not of a satisfactory level in the test-checked DHs indicating lack of oversight on the part of the hospital administration in ensuring adequate decontamination of functional areas of DHs.

- Only two to four types of linen comprising mainly of bed sheets and blankets were available in sufficient numbers in the test-checked DHs. There was shortage in two to 11 types of linen that included table cloths, OT coats, overcoats etc., whereas six to 17 types of linen comprising bedspreads, draw sheets, overshoes pair etc., were not available in the test-checked DHs. Laundry services were also highly inadequate as washing of linen was not done through mechanised laundry in the premises of test-checked DHs as envisaged under guidelines of "*Kayakalp*". Absence of covered trolleys to carry dirty linen from wards was also noticed. Further, there were no almirahs or covered racks to keep the washed linen safely in the wards of the test-checked DHs thereby increasing the vulnerability of patients to hospital acquired infections.

- Liquid chemical waste was being discharged directly into drains without pre-treatment in violation of the Bio-Medical Waste Management Rules, 2016.

Recommendations:

- ***Detailed SOPs for infection control and cleaning activities should be framed by all DHs and their implementation and monitoring should be ensured by District Infection Control Committees.***

- ***Prescribed disinfection and sterilisation of equipment should be ensured with proper documentation of the process.***
- ***Disposal of liquid chemical waste should be ensured as per the provisions of Bio-Medical Waste Management Rules, 2016.***

Drug management

Drug procurement process in the State was marred with systemic problems as well as non-adherence to the stipulated procedures viz., delays in testing resulting in expiry of medicines, non-adherence to quality assurance of supplied drugs, non-procurement of Essential Drugs etc.

- Jharkhand Medical & Health Infrastructure Development & Procurement Corporation Limited (JMHIDPCL) could not utilise State funds amounting to ₹ 87.85 crore (88 *per cent*) out of ₹ 100.31 crore on procurement of drugs which was refunded (June 2020) to the Department. Further, only ₹ 40.54 crore (79 *per cent*) was spent out of available NHM funds for purchase of drugs during 2016-19 and the balance of ₹ 12.24[3] crore was lying in the bank account of JMHIDPCL.
- Test-checked DHs procured medicines from local vendors without quality testing in the absence of centralised purchase of medicines by JMHIDPCL.
- Only 11 to 23 *per cent* of essential drugs were available with the test-checked DHs during 2017-19. The available drugs also became out of stock for a considerable period due to less procurement of drugs as compared to requirement.
- Test-checked DHs did not adhere to norms for storage of drugs which were directly linked with loss of efficacy and shelf life of drugs. Prescribed safety norms were also not followed for storage of dangerous drugs.

Recommendations

- ***The Department should set clear timelines for procurement and testing of essential drugs and ensure adherence to these timelines, failing which responsibility should be fixed and action taken against erring officials.***
- ***Storage of drugs under proper conditions as prescribed in the Drugs and Cosmetics Rules, 1945 should be ensured to maintain their efficacy.***

Building infrastructure

To deliver quality health services in the public health facilities, adequate and properly maintained building infrastructure is of critical importance. The Performance Audit, however, revealed several inadequacies and deficiencies in the availability and creation of hospital building infrastructure:

[3] Unspent balance included interest of ₹ 1.34 crore.

- Shortage of required beds in the test-checked DHs ranged between 61 and 88 *per cent* and 57 and 86 *per cent* respectively during 2014-15 and 2018-19. Shortage was due to non-sanction of additional beds with the pace of increase in the population.
- Government decided (August 2007) to construct a 500 bedded hospital building for DH, Ranchi. However, midway stoppage (July 2013) of construction work and failure to attract private partners to operate the hospital on PPP mode after completing the balance work led to the 500 bedded hospital remaining non-functional even after more than 12 years of commencement of building works.
- A new 100 bedded hospital building was sanctioned (June 2008) by the Department at a cost of ₹ 4.89 crore for DH, Ramgarh. However, construction work was stalled (June 2013) after incurring expenditure of ₹ 3 crore due to corruption charges against the officials engaged in the construction work. The work was not resumed (June 2020) and DH, Ramgarh was functioning in the building of Mother and Child Health Centre since April 2016.
- Construction of 10 bedded burn units with supply of furniture and equipment in all 24 districts were sanctioned (August 2014) at a cost of ₹ 1.35 crore each. Of these, four units were dropped (January 2016) and 20 units were completed at ₹ 12.40 crore (between September 2015 and January 2017). However, the completed units could not be made functional due to non-procurement of equipment.

Recommendations:

- ***The Department should plan to upgrade the bed capacity of DHs, commensurate with the increase of population in the district as per IPHS norms.***
- ***The Department should review all incomplete hospital buildings and address the bottlenecks that are causing delays. Idle buildings should be operationalised by deploying adequate equipment and manpower.***
- ***Responsibility should be fixed for negligence/lapses leading to inordinate delays in construction of hospital buildings and equipment lying idle.***

What has been the response of the Government?

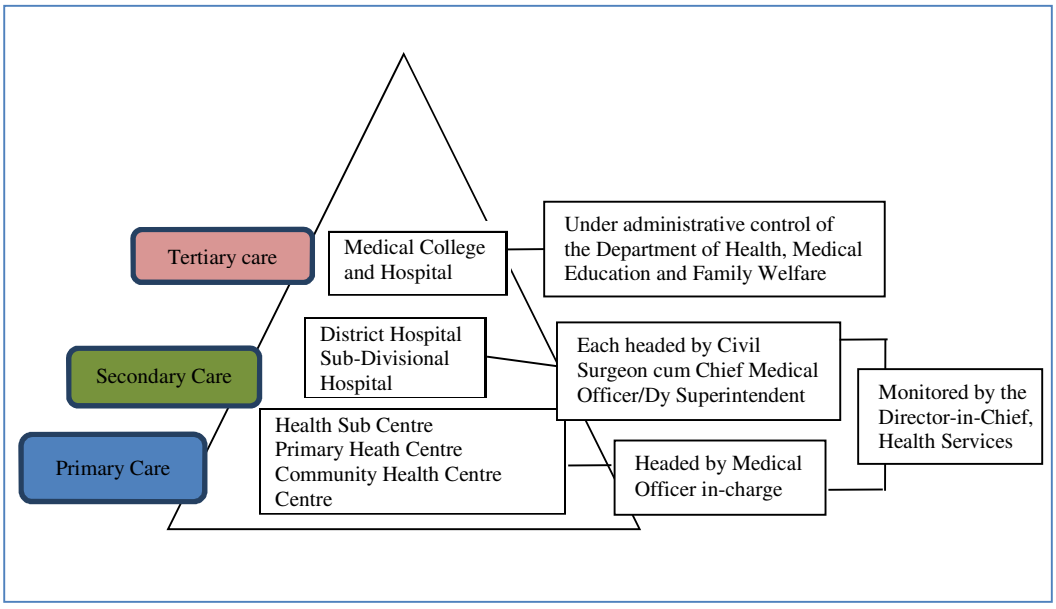
While providing a general response regarding efforts being made at their level, the Government assured (January 2021) that necessary action will be taken to improve the system where shortcomings had been pointed out by Audit.

Chapter 1 Introduction

The focus of India's National Health Policy 2017 is to strengthen the trust of the common man in the public healthcare system by making it predictable, efficient, patient-centric, affordable and effective, with a comprehensive package of services and products that meet the immediate healthcare needs of the people. At the global level, the Sustainable Development Agenda aims to ensure healthy lives and promote well-being for all by 2030 as per the Sustainable Development Goal (SDG) 3.

In Jharkhand, a three-tier health care system viz,. primary, secondary and tertiary was envisaged to provide quality medical care services to the people of the State as depicted in **Chart 1.1** below:

Chart 1.1: Public Healthcare Facilities in Jharkhand



Patients requiring more serious health care attention are referred to the second-tier health care system. In tertiary health care system, specialised consultative care is provided by the medical colleges and advanced medical research institutes upon referral from primary or secondary health care units.

A performance audit on District Hospital Outcomes in Jharkhand was taken up as the inhabitants of a district are mainly dependent on District Hospitals for specialised and comprehensive health care.

As per Indian Public Health Standards (IPHS) guidelines, every district is expected to have a district hospital linked with health care units. There are 23 DHs[4] functioning in 23 out of the 24 districts of the State. Bed strength in a DH varies from 100 to 250 beds depending upon the size, terrain and population of the district.

1.1 Health indicators in Jharkhand

As per Health and Family Welfare Statistics in India for the year 2019-20 published by the Ministry of Health and Family Welfare, Government of India, some important health indicators of Jharkhand *vis-à-vis* India are shown in **Table 1.1**

Table 1.1: Performance in Health Indicators

Sl. No.	Health Indicator	Jharkhand		India	
		2015[5]	2017	2015	2017
1	Maternal Mortality Ratio (MMR) (*per* lakh live births)	165	165	130	122
2	Infant Mortality Rate (IMR) (*per* 1000 live births)	32	29	37	33
3	Neonatal Mortality Rate	23	20	25	23
4	Stillbirth Rate	1	1	4	5
5	Under 5 Mortality Rate (*per* 1000 live births)	39	34	43	37
6	Institutional Deliveries (as *per cent* of total deliveries)	81.34	90.48	88.9	90.37

Source: Health and Family Welfare Statistics in India 2019-20 published by GOI

It can be seen from **Table 1.1** that MMR in Jharkhand was higher than the national average and had not improved in 2017 as compared to 2015. However, the performance of the State in the other indicators was better as compared to the national average.

1.2 Norms for health facilities in the hospitals

1.2.1 Indian Public Health Standards

Indian Public Health Standards (IPHS) are a set of uniform standards envisaged to improve the quality of health care delivery in the Country. These standards are used as the reference point for public health care infrastructure in the States and UTs.

1.2.2 National Health Mission

The National Health Mission (NHM) of Government of India (GoI) comprises two sub-missions viz., National Rural Health Mission (NRHM)

[4] Except in Dhanbad district where building for 100 bedded DH has been constructed but manpower is yet to be sanctioned (March 2020).

[5] Since 2015, MMR is available annually through collating sample of three consecutive years at a time.

and National Urban Health Mission (NUHM) launched in April 2005 and May 2013 respectively.

The objective of NHM is to guide the State Government for ensuring achievement of universal access to health care through strengthening of health care systems, institutions and capabilities. The major components of NHM are Health System Strengthening, Reproductive, Maternal, New-born and Adolescent Health, National Disease Control Programmes etc.

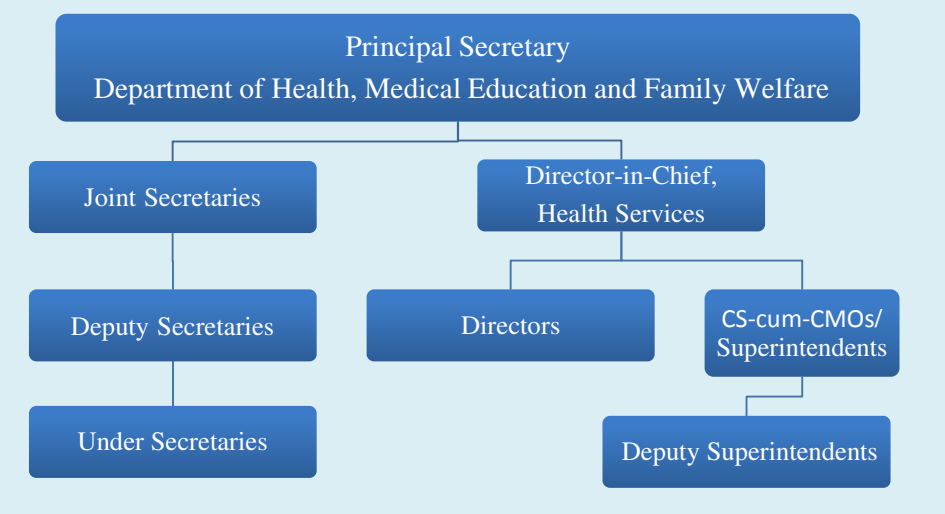
1.3 Organisational set-up

1.3.1 District Hospitals

The Department of Health, Medical Education and Family Welfare (Department), Government of Jharkhand (GoJ) headed by the Principal Secretary is responsible for the management of all Primary, Secondary and Tertiary health care systems. The organisational set up of the Department is shown in **Chart 1.2**.

Chart 1.2: Organogram

Health, Medical Education and Family Welfare Department



1.3.2 National Health Mission

National Health Mission (NHM) is implemented through the State Health Society (SHS) and District Health Societies (DHS) at the State and District level respectively. At the State level, the Jharkhand Health Mission (JHM) and at the district level, District Health Missions (DHM) were constituted by GoJ in 2006 for implementation of the National Health Mission.

1.4 Audit objectives

The Performance Audit of "District Hospital Outcomes in Jharkhand" was undertaken to assess whether:

(i) comprehensive plans and strategies regarding District Hospitals have been developed and implemented effectively for ensuring availability of accessible, affordable and quality health services;
(ii) financial management was efficient, adequate funds were made available in time and allocated funds were utilised optimally for providing prescribed health care facilities at the District Hospitals;
(iii) adequate provisions for line services such as out-patient services, in-patient services, intensive care units, operation theatres, maternity, etc., existed in District Hospitals and these services were delivered in an efficient and effective manner;
(iv) District Hospitals had efficient support services with regard to Registration, Diagnostic/Radiology services, diet management, ambulance service, bio-medical waste management, cold chain, power backup, etc.;
(v) District Hospitals had adequate resources viz., human, infrastructure, drugs, consumables, equipment etc., as per prescribed norms and these resources were utilised efficiently and effectively;
(vi) services relating to important health related programmes under NHM have been implemented adequately in the District Hospitals;
(vii) the health facilities followed norms and practices for auxiliary services like infection control, cleaning & laundry and public and patient safety;
(viii) the health facilities had a system in place to manage disasters/mass casualties and follows applicable norms and practices to deal with disaster situations; and
(ix) effective monitoring and regulatory systems have been put in place for ensuring delivery of quality health care to the public.

1.5 Audit criteria

The list of sources of criteria is given below:

- Indian Public Health Standards (IPHS), 2012;
- Framework for Implementation of National Health Mission (NHM),
- Operational Guidelines for Quality Assurance 2013 and NHM Assessor Guidebook DH Vol. I & II (2013);
- Maternal and Newborn Health Toolkit, 2013;
- National Cold Chain Policy, 2008;
- National Disaster Management Guidelines, 2014 and National Disaster Management Guidelines for Hospital Safety, 2016; and
- Departmental/ Government policies, rules, orders, manuals, regulations and MoUs.

1.6 Scope of Audit and Methodology

An Entry Conference was held on 10 January 2020 with the Principal Secretary of the Department wherein audit objectives, scope, criteria etc.,

were discussed and the inputs of the Department were obtained. The audit scope covered public health facilities available at the District Hospitals (secondary health care units) and involved scrutiny of records for the period 2014-19.

The audit included examination of records in the offices of the Principal Secretary of the Department, Mission Director (NHM), Director-in-Chief (Health Services), Jharkhand Medical and Health Infrastructure Development and Procurement Corporation Limited (JMHIDPCL), Jharkhand State Building Construction Corporation Limited (JSBCCL), Societies viz., State Health Society/District Health Societies and six selected District Hospitals (DHs). For assessing outcome and quality of health services available at DHs, five[6] months were selected for detailed scrutiny of data and records.

An Exit Conference was held on 9 February 2021 with the Principal Secretary of the Department wherein audit observations pertaining to the period 2014-19 were discussed. The Principal Secretary assured that remedial action would be taken to improve the health facilities at DHs with respect to shortcomings highlighted by Audit. The Department also furnished (January 2021) replies which are suitably incorporated in the Audit Report.

1.6.1 Sampling methodology

In Jharkhand, there are 23 DHs under five[7] Commissionerates. Of these, six[8] DHs (25 *per cent*) were selected on the basis of aggregate patient load both in In-patient Department (IPD) and Out-patient Department (OPD) through stratified sampling.

1.7 Financial Management

1.7.1 Funding of District Hospitals

The State provides funds for the health facilities under Grant No. 20 comprising of four Major Heads of Accounts viz., 2210 (Medical and Public Health), 4210 (Capital Outlay on Medical and Public Health), 2211 (Family Welfare) and 2251 (Secretariat- Social Services). Funds for DHs are provided under Major Head 2210. Apart from the State budget, DHs also get financial assistance under NHM with corresponding share of the State Government. Funds provided to the DHs are not shown separately in the State Budget and are clubbed together with funds provided to other health facilities of the State. Hence, Audit could not segregate the overall funds allocated to the DHs and expenditure there against. Similarly, Audit could not assess the quantum of NHM funds released to DHs and expenditure

6 May 2014, August 2015, November 2016, February 2018 and May 2018.
7 Kolhan, North Chotanagpur, Palamu, Santhal Pargana, and South Chotanagpur.
8 Deoghar, East Singhbhum, Hazaribag, Palamu, Ramgarh and Ranchi.

there against as this information was not provided by the Department though repeatedly called for.

Year-wise allocation of funds in the State budget meant for the entire health services in the State and expenditure there against during 2014-19 is shown in **Table 1.2**.

Table 1.2: Allocation and expenditure from the State Budget

(₹ in crore)

Year	Allocation	Expenditure	Savings (percentage)
2014-15	2,708.66	1,608.50	1,100.16 (41)
2015-16	3,303.85	2,158.50	1,145.35 (35)
2016-17	3,397.71	2,468.93	928.78 (27)
2017-18	4,044.15	2,847.18	1,196.97 (30)
2018-19	4,349.89	3,382.55	967.34 (22)
Total	**17,804.26**	**12,465.66**	**5,338.60 (30)**

(Source: Appropriation Accounts of respective years)

Table 1.2 shows that expenditure incurred by the Department increased by ₹ 1,774.05 crore (110 *per cent*) from ₹ 1,608.50 crore in 2014-15 to ₹ 3,382.55 crore in 2018-19. Though savings decreased from 41 *per cent* in 2014-15 to 22 *per cent* in 2018-19, it could have been utilised for purchase of much needed medicines, machines & equipment, development of infrastructure etc., as discussed in other chapters of the Report.

1.7.2 National Health Mission

GoI released funds under NHM based on the approved State Programme Implementation Plan (SPIP). SPIP included District Resource Envelope (DRE) showing fund provision for health facilities/programmes in a district without factoring in the hospital-wise requirements including DHs. Receipt and utilisation of funds under NHM during 2014-19 is shown in **Table 1.3**:

Table 1.3: Receipt and utilisation of funds under NHM

(₹ in crore)

Year	Opening balance	Receipt during the year	Total funds available during the year	Expenditure (percentage)	Closing balance
2014-15	18.86	849.49	868.35	361.79 (42)	506.56
2015-16	506.56	513.68	1,020.24	486.79 (48)	533.45
2016-17	533.45	500.68	1,034.13	520.75 (50)	513.38
2017-18	513.38	850.00	1,363.38	609.92 (45)	753.46
2018-19	753.46	677.08	1,430.54	862.57 (60)	567.97

(Source: Information provided by the State Health Society)

As shown in **Table 1.3**, percentage of expenditure ranged between 42 and 60 *per cent* against available funds during 2014-19 whereas overall ₹ 2,841.82 crore (83[9] *per cent*) of NHM funds were utilised.

[9] Of the total funds received during 2014-19 including opening balance of ₹ 18.86 crore *i.e.*, ₹ 3,409.79 crore.

1.7.3 Funding for District Hospitals

Allotment and expenditure from State funds during 2014-19 to the six test-checked DHs are detailed in **Table 1.4**:

Table 1.4: Allotment and expenditure in six test-checked DHs

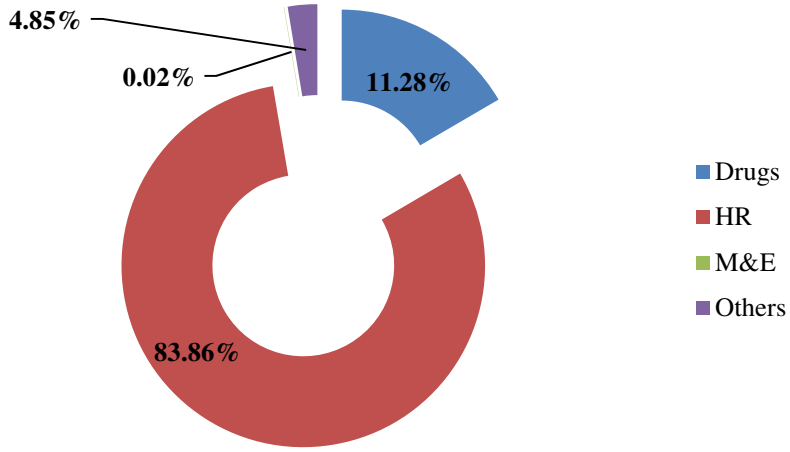
(₹ in crore)

Year	Allotment	Expenditure	Savings
2014-15	20.43	20.12	0.31
2015-16	24.88	24.31	0.57
2016-17	42.27	39.14	3.13
2017-18	37.73	36.29	1.44
2018-19	48.08	41.75	6.33
Total	**173.39**	**161.61**	**11.78**

(Source: Information obtained from six test-checked DHs)

Component-wise break-up of the expenditure incurred during 2014-19 is presented in **Chart 1.3**:

Chart 1.3: Component wise expenditure during 2014-19



As seen from **Chart 1.3**, 84 *per cent* of expenditure was on salary and emoluments to doctors, nurses etc., and 11 *per cent* on drugs in the test-checked DHs during 2014-19.

1.8 Hospital Services

Health services provided by DHs can broadly be divided into four categories viz., Resource management, Clinical services, Support services and Auxiliary services.

Adequacy and efficiency of Clinical, Support and Auxiliary services in hospitals impact the quality of medical care provided and the level of patient satisfaction achieved. Inadequacy and inefficiency of these services have been a matter of concern in various hospitals in the State. To assess the efficiency and outcome of these services in the test-checked DHs, Audit evaluated outcome indicators i.e., Bed Occupancy Rate (BOR), Leaving

Against Medical Advice (LAMA), Patient Satisfaction Score (PSS), Average Length of Stay (ALoS) etc., as prescribed by IPHS and found significant shortcomings.

1.9 Acknowledgement

Audit acknowledges the co-operation extended by the Health, Medical Education and Family Welfare Department and all selected District Hospitals in conduct of the Performance Audit.

1.10 Structure of the report

This report has been structured on the basis of various services and resources available in a hospital. The audit findings under the themes have been reported in seven chapters as follows:

- Chapter 2: Out Patient (OPD) Services;
- Chapter 3: Diagnostic Services;
- Chapter 4: In-Patient (IPD) Services;
- Chapter 5: Maternity Services;
- Chapter 6: Infection Control;
- Chapter 7: Drug Management; and
- Chapter 8: Building Infrastructure.

1.11 Policy framework for healthcare services

Delivery of quality and efficient healthcare services plays a significant role in improving the health indicators of the public at large. Thus, it was incumbent upon the Department, responsible for providing and managing the healthcare facilities in the State, to carry out comprehensive and outcome-based planning so that essential resources are provided to the public hospitals and ensure that available resources are utilised optimally in the short, medium and long-term.

Audit, observed that the policy framework under which the planning was to be done was inadequate, as discussed in the succeeding paragraphs:

1.11.1 Standardisation of services and resources

For ensuring efficient operation of DHs, it is essential to prescribe standards/norms for providing various resources. On the basis of these standards/norms, requirement of resources should be assessed and provisions made accordingly.

Audit observed that the Department did not formulate its own standards/ norms to ensure availability of all types of resources and services in adequate quantum in DHs. However, it followed IPHS and other GoI norms in planning, deployment of human resources, procurement of drugs and equipment and ensuring availability of other healthcare facilities as shown in **Table 1.5**.

Table 1.5: Standardisation of services and resources in DHs

Services/ Resources	Availability of State Government norms	Other norms/standards
OPD and IPD services	No	NHM Assessor's Guidebook, IPHS
Diagnostic services	No	NHM Free Diagnostics Service Initiative, IPHS
Human resources	No	NHM Assessor's Guidebook, MNH Toolkit IPHS
Drugs and consumables	Essential Drugs List, Drug Procurement Policy	NHM Assessor's Guidebook, MNH Toolkit, Free Drug Initiative of GoI, IPHS
Equipment	Equipment Procurement Policy but without standardisation of the types and number of equipment required for hospitals	NHM Assessor's Guidebook, IPHS
Hospital beds	No	NHM Assessor Guidebook, IPHS

Further, facility development plans for improvement of different components viz., infrastructure, equipment, human resources, drugs and supplies, quality assurance and service to be prepared for each hospital (as per NHM Framework 2012-17) on the basis of analysis of gaps in the health facilities was not prepared as the Department did not carry out gap analysis to assess the requirement of resources and services. As a result, a meaningful budgetary exercise to assess actual fund requirement with respect to gaps in resources could not be carried out either at the field or State level and the provision of funds in the budget were made on *ad hoc* basis.

1.12 Policies for acquisition of resources

1.12.1 Human resources

The delivery of quality healthcare services in hospitals depends to a large extent on adequate availability of manpower especially in the cadres of doctors, staff nurses and para-medical staff.

Sanctioned strength, person-in-position and shortage of doctors and paramedics in the State as of March 2019 is given in **Table 1.6**.

Table 1.6: Sanctioned strength, person-in-position and shortage of doctors and paramedics in the State

Sl. No.	Name of Post	Sanctioned Strength	Person-in-position	Shortages (*per cent*)
1	Medical Officer/ Specialist	733	310	423 (58)
2	Staff Nurse/ Auxiliary Nursing Midwife	586	104	482 (82)
3	Paramedic	435	103	332 (76)

It can be seen from **Table 1.6** that shortage of doctors, nurses and paramedics ranged between 58 and 82 *per cent*.

Audit examination also revealed the following:

- To meet the IPHS norms, the GoJ sanctioned (between July 2013 and November 2015) 414 posts of MO/Specialist for DHs in addition to the 319 existing posts. However, against the total sanctioned 733 posts of MO/ Specialist for DHs in the State, person-in-position (PIP) was only 310 (42 *per cent*) as of March 2019. Audit further noticed that though 317 MOs/ Specialists were offered appointment during the years 2016 to 2018, only 143 joined the service. Out of the 143 newly recruited MOs/ Specialists, 10 specialists left the job and 26 were absconding as of March 2019. Thus, DHs were facing an acute shortage of doctors.

- To meet IPHS, GoJ sanctioned (August 2017) 649 posts of Staff Nurse and Paramedics for DHs but recruitment was not carried out as of March 2019. Audit noticed that, as against 1,021 sanctioned posts of Staff Nurse/ANM (586) and Paramedic (435), vacancies were 814 (80 *per cent*) in the posts of Staff Nurse/ ANM (482) and Paramedics (332) as of March 2019.

- Test-checked DHs were also facing acute shortage of doctors (40 *per cent*), staff nurse (68 *per cent*) and paramedics (60 *per cent*) as discussed in **Chapter 4**.

Thus, DHs in the State were suffering from persistent shortage of doctors and paramedics which ultimately affected delivery of quality health services to the public.

1.12.2 Drugs and equipment

GoJ promulgated the Jharkhand State Drug Policy (JSDP) in June 2004. The policy was framed to ensure availability and accessibility of safe and quality essential medicines to the people through an efficient selection, procurement, distribution and storage system in the State. Under the policy, a State Medicines Selection Committee and a Medicines Procurement Committee respectively were made responsible for preparation of the Essential Drugs List (EDL) and execution of Rate Contracts (RCs) with manufacturing firms for uninterrupted supply of drugs at reasonable cost. CS-cum-CMOs were to issue supply orders/ indents to the contracted firms for supply of drugs as per requirement.

Later on, Jharkhand Medical and Health Infrastructure Development Procurement Corporation Limited (JMHIDPCL) was established (April 2013) under the Companies Act and was entrusted with the work of procurement and distribution of medicines, equipment and basic infrastructure to the health facilities in Jharkhand. The Directorate was to compile indents received from field level offices and submit a compiled indent to JMHIDPCL for centralised purchase. In the absence of Rate Contracts (RCs), JMHIDPCL was authorised to procure drugs and

consumables from firms having RCs with GoI, other State Governments or the Directorate General of Supply and Disposal (DGS&D). Examination of records revealed the following:

- The Directorate provided (March and May 2015) State funds amounting to ₹ 100.31 crore to JMHIDPCL during 2014-19 for procuring drugs. JMHIDPCL, however, procured drugs only for ₹ 12.46 crore during 2016-18 and refunded (June 2020) the un-utilised balance of ₹ 87.85 crore (88 *per cent*) to the Department.

- The State Health Mission (SHM) also released funds under NHM amounting to ₹ 51.43 crore during 2016-19 to JMHIDPCL for procuring drugs against which drugs worth ₹ 40.54 crore was procured during 2016-19.

- The Directorate provided State funds amounting to ₹ 109.82 crore to JMHIDPCL during 2014-16 for procurement of equipment. However, JMHIDPCL procured equipment for only ₹ 3.20 crore during 2016-17 and refunded (June 2020) ₹ 106.62 crore to the Department. Further, against ₹ 12.22 crore released during 2016-19 by SHM to JMHIDPCL for procurement of equipment, only ₹ 5.58 crore was spent during 2017-19.

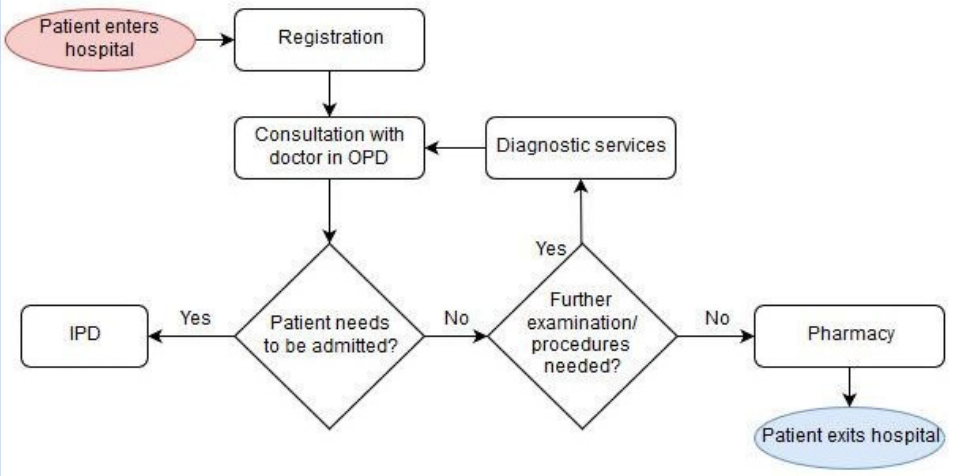
Short utilisation of funds resulted in shortage of drugs and equipment in test-checked DHs as discussed in Chapters 4, 5 and 7 of the Report.

***To sum up**, The Department did not formulate its own norms in respect of resources and services for District Hospitals and was following IPHS and GoI norms/standards. Provision of funds to DHs were made on ad hoc basis in the absence of gap analysis to assess the requirement of resource and services. Acute shortage of doctors, nurses and paramedics coupled with short-utilisation of funds provided for procurement of drugs and equipment adversely affected the delivery of quality health services to the public as discussed in the subsequent chapters.*

Chapter 2 Out-Patient Services

To avail Out-Patient Services in the hospitals, out-patients first register at the outdoor patient department (OPD). After registration, the concerned doctors examine the patients and either prescribe diagnostic tests for evidence based diagnosis or drugs, as per the diagnosis done during the consultation process.

Chart 2.1: Flow of out-patient services



This chapter contains audit findings in respect of registration facilities, patient load in OPD, signage (public display sign) system, and grievance redressal in OPD services.

2.1 Out Patient Services

As per IPHS, a DH is expected to provide services grouped in two categories viz., essential and desirable services[10]. These services include OPD, Indoor and Emergency services. Essential services under OPD inter alia includes nine services viz., Gynaecology, Paediatrics, Psychiatry, Ear-Nose-Throat, Dental, General Medicine, General Surgery, Ophthalmology and Orthopaedics. Availability of these nine services and emergency services in the six test-checked DHs is shown in **Table 2.1**.

[10] Dermatology and Venereology (Skin & VD), Radiotherapy Allergy De-addiction centre, Physical Medicine and Rehabilitation services, Tobacco Cessation Services, Dialysis Services. Post-Partum Unit with following services in an integrated manner, Post Natal Services, all Family Planning services i.e., Counselling, Tubectomy (Both Laparoscopic and Minilap), NSV, IUCD, OCPs, Condoms, ECPs, Follow up services, Safe Abortion Services and Immunization.

Table 2.1: Out-patient services in District Hospitals

Name of DH	Em	Gy	GM	GS	Oph	Ortho	Pedia	Dental	Psy	ENT
Deoghar	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
East Singhbhum	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hazaribag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Palamu	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Ramgarh	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ranchi	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

(Source: Test-checked District Hospitals)

***Em: Emergency, GY: Gynaecology, GM: General medicine, GS: General surgery, Oph: Ophthalmology, Ortho: Orthopaedics, Paedia: Paediatrics, Psy: Psychiatry, ENT: Ear, Nose and Throat.**

It can be seen from **Table 2.1** that Psychiatry and ENT services were not available in four and two DHs respectively out of test-checked six DHs. Audit further noticed that, in DH Deoghar, ophthalmology services were not available since May 2016 due to non-availability of specialist doctor. All test-checked DHs were providing dental services only with one to 27 types[11] of equipment out of 34 types prescribed under IPHS.

The Department while accepting (January 2021) non-availability of ENT, Oph. and Psy. OPD services in DH, Deoghar stated that the OPD services is presently available at Medini Rai Medical College Hospital (earlier DH, Palamu). No reply was furnished in respect of DHs Hazaribag, Ramgarh and Ranchi.

2.2 Patient load in OPD

Out-patient services in DHs were provided through OPD clinics run by a doctor on daily basis. The summarised number of patients provided OPD services in the six test-checked DHs during 2014-19 is shown in **Table 2.2**.

Table 2.2: Number of out-patients in test-checked DHs

Year	Deoghar	East Singhbhum	Hazaribag	Palamu	Ramgarh	Ranchi	Total number of out-patients	Increase (YoY) (in *per cent*)
2014-15	1,26,739	70,245	1,59,329	1,61,224	39,549	2,05,861	7,62,947	Not applicable
2015-16	1,54,781	69,072	1,95,333	1,75,180	36,986	2,33,154	8,64,506	12
2016-17	1,48,891	1,01,029	2,34,328	2,06,685	62,022	2,91,563	10,44,518	21
2017-18	1,36,487	1,14,449	3,06,627	2,19,807	82,287	3,45,408	12,05,065	15
2018-19	1,52,861	1,23,311	3,12,748	2,17,304	91,734	3,00,741	11,98,699	-1

(Source: HMIS data)

It can be seen from **Table 2.2** that the number of out-patients increased by 4,35,752 (57 *per cent)* in the test-checked DHs in 2018-19 as compared to 2014-15. Audit further noticed that despite increase in the number of patients in OPDs, each OPD clinic was being run by a single doctor leading to increase in patient load per doctor per day which had a cascading effect

[11] Deoghar: 15, East Singhbhum: 5, Hazaribag: 7, Palamu: 4, Ramgarh: 1 and Ranchi: 27.

in terms of low consultation time per patient as discussed in **Paragraph 2.3.1**.

The Department while accepting (January 2021) facts of patients load in OPD at DH, Palamu, stated that effective OPD services is in place in DH, Deoghar according to available doctors. The fact is that though the Department claimed existence of effective OPD services in DH, Deoghar, audit observed that the average consultation time in GM department during the month of May 2018 was only 2.38 minutes per patient. No reply was furnished in respect of DHs East Singhbhum, Hazaribag, Ramgarh and Ranchi.

2.3 Evaluation of out-patient services through outcome indicators

NHM Assessor's Guidebook for Quality Assurance provides for evaluation of OPD services through certain outcome indicators. Audit assessment of the quality of out-patient services in test-checked DHs with respect to outcome indicators revealed the following:

2.3.1 Patient load and consultation time at OPD

An efficient and competent OPD, commensurate with the flow of patients, is a must for providing quality health services to patients, particularly poor patients who cannot afford treatment in private hospitals.

The National Institute of Public Finance and Policy had opined that consultation time spent with a doctor is an important attribute to determine satisfaction levels among patients. Longer contact time has been significantly associated with better recognition and handling of physical problems and patient empowerment. Short contact time with the healthcare personnel is a common source of patient's dissatisfaction with the consultation process.

Audit observed that the OPDs were operated for six hours a day but the Department had not fixed standard time for specialist consultation in OPDs. Audit scrutiny of records of sampled months[12] revealed heavy patient load per day per doctor in the six test-checked DHs, especially in general medicine OPD which ranged between 79 and 325 patients per doctor per day. The heavy patient load adversely impacted consultation time which ranged between one and five minutes per patient ***(Appendix-2.1)***. Besides, in general medicine OPD and gynecology OPD, patient load ranged between 30 and 194 and consultation time between two and 12 minutes. Similarly, in pediatrics OPD, patient load ranged between 20 and 118 and consultation time between three and 18 minutes ***(Appendix-2.1.)*** Despite high patient load and low consultation time, the concerned DHs did not take action to deploy more than one doctor in these OPDs.

[12] May 2014, August 2015, November 2016, February 2018 and May 2018.

The Department did not furnish replies to the audit observations.

2.4 Registration facility for OPD

Registration counter is the first point of contact with the hospital for a patient. The average daily patient load[13] per registration counter during 2018-19 (279 working days) in the six test-checked DHs was as shown in **Table 2.3**.

Table 2.3: Average Daily patient load in test-checked DHs

Name of DHs	Number of out- patients during 2018-19	Average daily patient load	Numbers of registration counter
Deoghar	1,52,861	274	2
East Singhbhum	1,23,311	221	2
Hazaribag	3,12,748	560	2
Palamu	2,17,304	389	2
Ramgarh	91,734	329	1
Ranchi	3,00,741	269	4
Total	**11,98,699**	**330**	**13**

During 2018-19, the average daily patient load per registration counter was high in DH, Hazaribag (560) and Palamu (389). Audit further noticed that computerised registration counters were available only in two (East Singhbhum and Ranchi) out of six test-checked DHs. Long queues of patients were observed during physical verification on 06 November 2019 even at DH Ranchi where patient load (269) was comparatively lower and number of registration counters were more.

The Department while accepting (January 2021) non-availability of computerised registration services in DH, Deoghar stated that action is being taken to register patients through computer. No reply was furnished in respect of other test-checked DHs.

2.5 Other basic facilities in OPDs

As per IPHS guidelines, amenities like seating arrangement, potable drinking water, clean toilets and functional fan/cooler for the patients in waiting area are required.

Audit observed absence of suitable seating facility and toilets in OPD areas in three out of six test-checked DHs as shown in **Table 2.4**.

Table 2.4: Non-availability of basic facilities in OPD premises

Facilities	Hospitals with non-availability of the facility
Suitable seating facility	In DH, Ramgarh only six chairs were available for patients against required 20 numbers of chairs as per IPHS. No seating facility was available in DH, Palamu.
Toilets	In DH Palamu, toilet was not available in OPD area.

(Source: Test-checked DHs)

[13] Number of patients during the year/ number of working days in a year x number of counters

Thus, basic facilities as required were not provided in the concerned DHs.

In reply (January 2021), the Department accepted the audit observation.

2.6 Patient rights and grievance redressal

As per IPHS, a Citizen's Charter should be prominently displayed and a grievance redressal mechanism set up in each DH to enable patients to know their rights. Further, grievances of beneficiaries should be redressed on priority basis.

Audit observed that Citizen's Charter was not displayed in two (Deoghar and Palamu) out of six test-checked DHs. Grievance redressal mechanism was available only in two (East Singhbhum and Palamu) DHs. Further, though complaint registers were being maintained for grievance redressal by these DHs, no action was taken on the complaints.

The Department accepted (January 2021) the audit observation and stated that Grievance redressal mechanism would be established at DH, Hazaribag.

***To sum up**, the substantial increase in the number of out-patients was not accompanied with deployment of adequate number of doctors in OPDs leading to high number of OPD cases per doctor per day. Consequently, the consultation time per patient in the hospitals was less than five minutes for most patients which is directly linked with patient's dissatisfaction with the consultation process. This coupled with lack of basic facilities in OPD premises and absence of proper grievance redressal mechanism indicated inadequate clinical care in OPD.*

Chapter 3 Diagnostic 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.

Audit observed that many of the significant radiology and pathology tests were not being carried out in the six test-checked DHs due to lack of required equipment and skilled manpower. Significant audit findings in this regard are discussed in the succeeding paragraphs:

3.1 Radiology Services

The role of radiology is central to disease management for detection, staging and treatment of diseases. Adequate availability of functional radiology equipment, skilled man-power and consumables are the key requirements for the delivery of quality radiology services.

3.1.1 Availability of radiological equipment

Indian Public Health Standards (IPHS), 2012 prescribed various types of radiological equipment (X-ray machines, Ultrasonography and CT scan) for District Hospitals (DHs) as shown in **Table 3.1**.

Table 3.1: Requirement of various types of radiological equipment in DHs

Sl. No.	Name of the equipment	Number of equipment required as per IPHS norms	Number of equipment required as per IPHS norms
		101-200 Bedded	201-300 Bedded
1	500 milli Ampere (mA) X-ray machine*	1 Desirable	1
2	300 (mA) X-ray machine	1	1
3	100 (mA) X-ray machine	1	1
4	60 (mA) mobile X-ray machine	1 Desirable	1
5	Dental X-ray machine	1	1
6	Color Doppler Ultrasound machine (Obstetrics and Gynecology departments should have separate ultra-sound machine)	1 + 1	2 + 1
7	C.T. Scan[14] multi slice	1 Desirable	1 Desirable

* To be provided as per need

The position of availability of radiological equipment in the six test-checked DHs during 2014-19 is given in **Table 3.2**.

[14] Desired for hospitals having bed strength of more than 100 beds.

Table 3.2: Availability of various types of radiological equipment

Name of district hospital	No. of sanctioned Beds	Name of Radiological equipment						
		X-ray (in mA)				Dental X-ray	USG	CT scan
		100	300	500	60			
Ramgarh	100	01	Nil	Nil	Nil	01	Nil	Nil
Deoghar	100	01	01	Nil	Nil	Nil	01	Nil
East Singhbhum	100	Nil	01	Nil	Nil	01	01	Nil
Palamu	200	02	Nil	Nil	Nil	01	01	01
Ranchi	200	01	Nil	01	Nil	01	01	Nil
Hazaribag	250	Nil	02	Nil	Nil	01	Nil	Nil

(Source: Test-Checked DHs)

As shown in **Table 3.2**, two test-checked DHs did not have Ultrasonography (USG) machine while Computed Tomography (CT) scan machines were not available in five out of the six test-checked DHs. Prescribed X-ray machines were available only in DH Deoghar. Audit further observed that Dosimeter[15], an x-ray room accessory used to measure radiation exposure, was not available in any of the test-checked DHs. Further, even though dental X-ray machine was available in DH, Ranchi since 2017, it could not be installed as of March 2020 due to shortage of space and non-availability of Radiologist and Technician.

Audit further observed that X-ray machines of higher radiation and penetration levels (300 and 500 mA) were being used in three DHs (East Singhbhum, Hazaribag and Ranchi) instead of X-ray machines of lower radiation and penetration (100 and 300 mA) as prescribed by the World Health Organisation. As a result, risk of patients being unnecessarily exposed to adverse effects of higher radiations cannot be ruled out.

Thus, access of patients to evidence-based treatment facilities and quality health care was limited due to non-provision of all kinds of radiology services in the test-checked DHs.

The Department accepted (January 2021) the necessity of X-ray machines in two DHs (East Singhbhum and Hazaribag) but was silent in respect of other DHs. The reply was also silent on other shortcomings pointed out by Audit.

3.1.2 AERB license for radiology machines

As per Atomic Energy (Radiation Protection) Rules, 2004, a license from the Atomic Energy Regulatory Board (AERB) is necessary for establishing X-ray and CT scan units.

Audit observed that test-checked DHs did not have AERB license for operating X-ray units during 2014-19. DH, East Singhbhum had, however, obtained the license in October 2019. Test-checked DHs did not explain the reasons behind operating X-ray units without required license which was

[15] Dosimeter- measures exposure to ionising radiation over a given period

needed to ensure the safety of patients and medical staff *vis-à-vis* potential exposure to excess radiation.

The Department accepted (January 2021) the facts and stated that DHs East Singhbhum and Ranchi had obtained the licenses during 2019-20.

3.2 Pathology services

Pathology services are the backbone of any hospital for extending evidence-based health care to the public. As in the case of radiology services, availability of essential equipment, reagents and human resources are the main drivers for the delivery of quality pathology services through in-house laboratories.

3.2.1 Availability of pathology services

IPHS prescribes 70 types of pathological investigations under five categories[16] to be carried out in the district-level hospitals.

Audit noticed that the full range of pathological investigations were not available in-house in the six test-checked DHs as shown in **Table 3.3**.

Table 3.3: Non-Availability of pathological services as on 31 March 2019

Pathology tests		Number of pathological tests not available in DHs (Shortfall in *per cent*)					
Name	Numbers of tests required	Deoghar	East Singhbhum	Hazaribag	Palamu	Ramgarh	Ranchi
Clinical pathology	29	16 (55)	20 (69)	15 (52)	18 (62)	15 (52)	03 (10)
Pathology	8	06 (75)	08 (100)	08 (100)	08 (100)	07 (83)	02 (25)
Microbiology	7	07 (100)	07 (100)	07 (100)	07 (100)	07 (100)	06 (86)
Serology	7	04 (57)	04 (57)	02 (29)	05 (71)	05 (71)	02 (29)
Biochemistry	19	13 (68)	12 (63)	14 (74)	18 (95)	18 (95)	06 (32)

(Source: Test-checked DHs)

It can be seen from **Table 3.3** that all the six test-checked DHs lacked the full range of pathological services.

Thus, DHs were not providing pathological services as prescribed in IPHS, depriving the public from availing evidence-based health care. Non-availability of essential equipment and short deployment of skilled man-power in in-house pathological laboratories were amongst the main reasons for the absence of investigation facilities.

The Department accepted (January 2021) non-availability of full range of pathological services in two test checked DHs (Deoghar and Hazaribag) but was silent in respect of the other DHs.

[16] Clinical pathology: 29 tests, Pathology: 08 tests, Microbiology: 7 tests, Serology: 7 tests and Biochemistry: 19 tests.

3.2.2 Equipment and human resources

Audit noticed shortage in equipment and human resources for providing quality pathological services as under:

- IPHS prescribes 60 types of pathological equipment for hospitals depending upon their bed capacity. It was observed that, against the required 60 essential equipment, only 12 to 28 equipment were available in the six test-checked DHs. Shortage of equipment in these DHs ranged between 53 and 80 *per cent*. Audit further observed that in four[17] test-checked DHs, 20 pathological equipment were lying idle for want of repair (10), non-availability of reagent/kit (four) and being of old model (six).

- Lab Technicians (LTs) are the key personnel for in-house laboratories and are responsible for taking samples and carrying out prescribed pathological investigations. Audit observed shortfall of 16 to 77 *per cent* in sanctioned posts of LTs with respect to IPHS norms in all six test-checked DHs. Further, only 13 LTs were in position against the sanctioned 19 posts in four[18] out of six test-checked DHs.

- There were no Pathologists (Doctor) in two DHs (Deoghar and East Singhbhum) despite having sanctioned post and test reports were being issued by LTs without being authenticated by a doctor.

- Due to non-availability of full range of pathology services in DHs, the Department engaged (April and May 2015) two[19] private vendors on PPP mode for development, operation and maintenance of advanced pathology centers in all the 23 DHs. These centers were to provide only high-end diagnostic services. Thus, for routine pathological tests, patients were still dependent on in-house pathological facilities in the DHs.

The Department accepted (January 2021) shortage of pathological equipment and manpower at DH Deoghar but were silent in respect of other DHs.

3.2.3 Quality assurance of pathology services

According to the provisions of the NHM Free Diagnostics Services Initiatives, 2015, all laboratories in district hospitals would be encouraged to achieve NABL accreditation. A system of regular sample cross-checking of diagnostic results with identified reference laboratories such as the All India Institute of Medical Sciences (AIIMS) or Christian Medical College (CMC), Vellore etc., was also to be established to ensure External Quality Assurance (EQA), required for NABL accreditation.

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17 Deoghar, East Singhbhum, Hazaribag and Palamu
18 Deoghar, East Singhbhum, Ramgarh and Ranchi
19 M/s MEDALL: 12 districts and M/s SRL Limited: 11 districts.

Audit observed that all the six test-checked DHs had not obtained NABL accreditation for their pathological laboratory during 2014-19. Further, none of the test-checked DHs sent samples of their test results for external assessment and validation during 2014-19 for reasons not available on record. EQA were also not ensured in respect of test results of the two outsourced private vendors by four (except Palamu and Hazaribag) out of six test-checked DHs. Thus, minimum quality standards in pathological services were not ensured.

The Department accepted (January 2021) absence of NABL accreditation for DH, Deoghar but was silent in respect of the other test-checked DHs.

3.2.4 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) reflects the overall efficiency of the pathology services in terms of patient's satisfaction.

Audit observed that in-house Pathology units of all the six test-checked DHs maintained registers manually indicating name of the patients, their registration numbers and prescribed pathological tests mentioned in OPD slips. However, the time of sample collection, samples sent to lab, test reports received and test reports handed over to patients were not recorded in the register. As such audit could not ascertain waiting time and turn-around time to assess efficiency of the pathology services.

The Department did not furnish specific replies to the audit observation.

To sum up, *the provisioning of diagnostic services in the test-checked hospitals was sub-optimal and marred by inadequacy of prescribed equipment and shortage of human resources, thus depriving patients of evidence-based treatment procedures. Further, the lack of monitoring of waiting time and turn-around time adversely affected the ability of hospitals to measure and improve the efficiency of diagnostic services.*

Chapter 4 *In-Patient Services*

Indoor Patients Department (IPD) refers to the areas of the hospital where patients are accommodated after being admitted, based on doctor's/ specialist's assessment, from the Out-Patient Department, 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.

While availability of doctors, nurses, essential drugs/equipment, dietary services and patient safety along with performance evaluation are included in this chapter, diagnostic services and drug management are discussed in Chapters 3 and 7 respectively. Similarly, the results of audit scrutiny of infection control practices in the test-checked DHs are discussed in Chapter 6. The following paragraphs discuss the in-patient services of six District Hospitals (DHs) test-checked in audit.

4.1 Availability of in-patient services

As per NHM Assessor's Guidebook and IPHS guidelines, a DH should provide specialist in-patient services pertaining to Emergency, Burn unit, ENT, Gynecology, General Medicine, General Surgery, Ophthalmology, Orthopaedics, Psychiatry etc. Availability of these services as of March 2019 in the six test-checked DHs is shown in **Table 4.1**.

Table 4.1: In-patient services in district hospitals

Name of DH	Em	Bur	ENT	Gy	GM	GS	Oph	Orth	Psy
Deoghar	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No
East Singhbhum	Yes	No	No	Yes	Yes	Yes	No	No	No
Hazaribag	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Palamu	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
Ramgarh	Yes	No	No	Yes	Yes	Yes	Yes	No	No
Ranchi	Yes	No	No	Yes	Yes	Yes	Yes	No	No

***Em: Emergency ward, Bur: Burn ward, ENT: Ear, Nose and Throat, GY: Gynecology GM: General medicine, GS: General surgery, Oph, Ophthalmology, Orth: Orthopedics, Psy: Psychiatry**
(Source: Test-checked DHs)

It can be seen from **Table 4.1** that Burns Ward and Orthopedics were not available in four and three of the six test-checked DHs respectively including the State capital. As such, patients were compelled to get these services in private hospitals or other nearby higher government health facilities where these services were available.

The Department stated (January 2021) that IPD services for Psychiatry and ENT were presently available at DH, Palamu and accepted absence of these

services in four (Deoghar, East Singhbhum, Hazaribag and Ramgarh) test-checked DHs while remaining silent in respect of DH, Ranchi. It was further stated that IPD services for Psychiatry and ENT could not be made available in DHs at East Singhbhum and Ramgarh due to lack of manpower, infrastructure and space while these services would be started shortly at DH, Hazaribag.

The Department has only replied regarding IPD services for Psychiatry and ENT. The fact remains that essential services such as Burns Ward and Ortho services were not available in all hospitals, including the DH in the State capital.

4.2 Availability of human resources in DHs

4.2.1 Doctors

IPHS provides that Medical Officers (MOs)/ Specialists should be available round the clock in IPD to provide due medical care to the in-patients. The person-in-position (PIP) of MO/ Specialist in six test-checked DHs and shortage with respect to IPHS norms as of March 2019 are given in **Table 4.2**.

Table 4.2: Shortage of doctors/specialists in test-checked DHs

Name of DH	Sanctioned beds	Number of doctors required as per IPHS	PIP as on March 2019	Shortage in comparison to IPHS	Percentage of shortage as compared to IPHS
Deoghar	100	32	15	17	53
East Singhbhum	100	32	14	18	56
Hazaribag	250	37	20	17	46
Palamu	200	37	22	15	41
Ramgarh	100	32	26	06	19
Ranchi	200	37	27	10	27
Total	**950**	**207**	**124**	**83**	**40**

(Source: Test-checked DHs)

Thus, there was shortage of doctors ranging between 19 and 56 *per cent* in all the six test-checked DHs. Further, IPHS prescribes posts of specialists for different departments based on bed capacity of a DH. Audit noticed shortage of specialists *vis-a-vis* IPHS norms in the six test-checked DHs as on March 2019 as shown in **Table 4. 3**.

Table 4.3: Requirement, PIP and shortage of specialists in test-checked DHs

Name of DH	Number of Specialist required as per IPHS	Person in position	Details of shortage of different specialists (Number of total shortage)
Deoghar	21	09	Medicine (01), Obstetrics & Gynae (01), Ophthalmology (01), Radiology (01), Pathology (01), ENT (01), Psychiatry (01), AYUSH (01), Anesthesia (01), Dermatology (01), Microbiology (01) and Forensic Specialist (01) **Total shortage –12**
East Singhbhum	21	06	Medicine (02), Obstetrics & Gynae (01), Pediatrics (01), Radiology (01), Pathology (01), ENT (01), AYUSH (01), Surgery (02), Anesthesia (01), Orthopedics (01), Dermatology (01), Microbiology (01) and Forensic Specialist (01) **Total shortage – 15**
Hazaribag	35	23	Obstetrics & Gynae (02), ENT (01), Psychiatry (01), AYUSH (01), Surgery (02), Anesthesia (02), Dermatology (01), Microbiology (01), and Forensic Specialist (01) **Total shortage – 12**
Palamu	24	06	Medicine (02), Obstetrics & Gynae (02), Pediatrics (01), Ophthalmology (01), Pathology (02), ENT (01), Psychiatry (01), Surgery (02), Anesthesia (02), AYUSH (01), Dermatology (01), Microbiology (01) and Forensic Specialist (01) **Total shortage – 18**
Ramgarh	21	12	Medicine (02), Radiology (01), AYUSH (01), Anesthesia (02), Dermatology (01), Microbiology (01) and Forensic Specialist (01) - **Total shortage – 09**
Ranchi	24	13	Surgery (01), Medicine (02), Pathology (01), ENT (01), Psychiatry (01), AYUSH (01), Orthopedics (01), Dermatology (01), Microbiology (01) and Forensic Specialist (01) **Total shortage – 11**

(Source: Test-checked DHs)

It can be seen from **Table 4.3** that all six test-checked DHs had shortages of specialists which ranged between 34 and 75 *per cent*. None of the test-checked DHs had specialists of AYUSH, Dermatology, Microbiology and Forensic.

The Department accepted (January 2021) the shortage of specialists in three test-checked DHs with respect to IPHS norms. No reply was furnished in respect of the other three DHs (Hazaribag, Palamu and Ranchi).

4.2.2 Nurses and Paramedics

IPHS prescribes various posts of staff nurses and paramedics in DHs according to their bed capacity as shown in **Table 4.4**.

Table 4.4: Staff nurses and paramedics required for a DH

Sl. No.	Name of post	Required for 100-200 bed hospital	Required for 300 bed hospital	Sl. No.	Name of post	Required for 100-200 bed hospital	Required for 300 bed hospital
1	Staff Nurse	45-90	135				
Paramedics							
1	Lab Tech	6-9	12	**11**	O.T. technician	4-6	8
2	Pharmacist	5-7	9	**12**	CSSD Assistant	1	2
3	Storekeeper	1	2	**13**	Social Worker	2-3	4
4	Radiographer	2-3	5	**14**	Counsellor	1	2
5	ECG Tech/Eco	1-2	3	**15**	Dermatology Technician	-	1
6	Audiometrician	-	1	**16**	Cyto Technician	-	1
7	Optha. Assistant	1	2	**17**	Dental Technician	1	2
8	EEG Tech.	-	1	**18**	Darkroom Assistant	2-3	5
9	Dietician	1	1	**19**	Rehabilitation Therapist	1	2
10	Physiotherapist	1	2	**20**	Biomedical Engineer (Desirable)	1	1

Audit noticed shortage of staff nurses and paramedics in the six test-checked DHs as of March 2019 in comparison to IPHS norms as given in **Table 4.5**.

Table 4.5: Sanctioned strength, PIP and shortage of Paramedics and Staff Nurses

Name of DH	Sanctioned beds	Strength required as per IPHS norms		Person-in-position		Shortage as per IPHS norms (*per cent*)	
		Paramedics	Staff Nurses	Paramedics	Staff Nurses/ ANM	Paramedics	Staff Nurses
Deoghar	100	31	45	7	40	24 (77)	5(11)
East Singhbhum	100	31	45	15	11	16 (52)	34 (76)
Hazaribag	250	66	135	21	28	45 (68)	107 (79)
Palamu	200	42	90	24	12	18 (43)	78 (87)
Ramgarh	100	31	45	10	11	21 (68)	34 (76)
Ranchi	200	42	90	11	26	31 (74)	64 (71)
Total	**950**	**219**	**405**	**88**	**128**	**131 (60)**	**277(68)**

(Source: Test-checked DHs)

It is evident from **Table 4.5** that shortage of paramedics ranged between 43 and 77 *per cent* whereas that of staff nurses between 11 and 87 *per cent* in the test-checked DHs. Category-wise shortage of paramedics has been detailed in ***Appendix 4.1***.

Thus, DHs had acute shortage of paramedics and nursing staff which would adversely affected their smooth functioning.

The Department accepted (January 2021) the shortage of paramedics and staff nurses in DHs Deoghar and Palamu. No reply was furnished in respect of the remaining four test-checked DHs.

4.3 Operation Theatre services

Operation Theatre (OT) is an essential service that is to be provided to patients. IPHS prescribes OTs for elective major surgery, emergency services and ophthalmology/ENT for DHs having bed capacity of 101 to 500. Availability of OTs in the six test-checked DHs is shown in **Table 4.6**.

Table 4.6: Availability of OTs in DHs (2018-19)

Name of DH	OT for elective major surgeries	OT for emergency surgeries	OT for ophthalmology	OT for ENT and orthopaedics
Deoghar	Yes	No	No	No
East Singhbhum	Yes	No	No	No
Hazaribag	Yes	No	Yes	No
Palamu	Yes	Yes	Yes	No
Ramgarh	Yes	No	Yes	No
Ranchi	Yes	No	Yes	No

(Source: Test-checked DHs)

It can be seen from **Table 4.6** that OTs for ENT and Orthopaedics were not available in any of the six test-checked DH. Further, OTs for emergency services was not available in five DHs. OTs for Ophthalmology started functioning in DHs, Ramgarh and Ranchi only from September 2017 and May 2018 respectively.

Thus, patients were not provided facilities for surgical treatment with respect to emergency, ophthalmology, ENT and orthopaedic services in the test-checked DHs.

The Department accepted (January 2021) the facts in respect of three (Deoghar, East Singhbhum and Palamu) out of the six test-checked DHs. It was stated that OT facilities were now being provided in DH, Palamu (now Medini Rai Medical College and Hospital). It was further stated that Eye clinic was operational in the old hospital premises in DH Deoghar. The reply regarding DH Deoghar is not acceptable as the eye clinic was being run by a Non-Government Organisation as a camp for cataract surgery.

4.3.1 Availability of equipment in OT

IPHS guidelines prescribes 23[20] types of equipment for OTs for DH with bed-capacity up to 300 beds. Availability of these equipment during 2018-19 in all the six test-checked DHs is shown in **Table 4.7**.

[20] Auto Clave HP Horizontal, Auto Clave HP Vertical (2 bin), Operation Table Hydraulic Major, Operation table Hydraulic Minor, Operating table non-hydraulic field type, Operating table Orthopedic, Autoclave vertical single bin, Shadowless lamp ceiling type major, Shadowless lamp ceiling type minor, Shadowless Lamp stand model, Focus lamp Ordinary, Sterilizer (Big instruments), Sterilizer (Medium instruments), Sterilizer (Small instruments), Bowl Sterilizer Big, Bowl Sterilizer Medium, Diathermy Machine (Electric Cautery), Suction Apparatus – Electrical, Suction Apparatus - Foot operated, Dehumidifier, Ultra violet lamp philips model 4 feet, Ethylene Oxide sterilizer and Microwave sterilizer

Table 4.7: Availability of essential equipment in OTs during 2018-19

Name of District Hospital	Bed capacity	Availability of essential equipment	Percentage of availability of essential equipment
Deoghar	100	10	43
East Singhbhum	100	6	26
Hazaribag	250	12	52
Palamu	200	11	48
Ramgarh	100	9	39
Ranchi	200	12	52

(Source: Test-checked DHs)

As evident from **Table 4.7**, only six to 12 types of equipment were available in the OTs of the six test-checked DHs against the requirement of 23 types of equipment. Thus, the equipment available for OTs in the test-checked DHs were insufficient, implying that quality of surgical treatment would have been adversely affected in these test-checked DHs.

The Department while accepting the shortage (January 2021) at DH Hazaribag stated that the necessary equipment were available in OTs at DHs, Deoghar and Palamu without giving list of equipment. No reply was furnished in respect of DHs East Singhbhum, Ramgarh and Ranchi.

The reply of Department is not acceptable as shortage of equipment (57 and 52 *per cent*) was noticed in DHs Deoghar and Palamu respectively during 2018-19 as given in **Table 4.7**.

4.3.2 Availability of drugs in OT

As prescribed in NHM Assessor's Guidebook, 23[21] types of drugs should be available in OTs. Against this, there was shortage of drugs in the test-checked DHs in the sampled month (May 2018) as shown in **Table 4.8**.

Table 4.8: Availability of essential drugs in OTs

Name of District Hospital	Number of available essential drugs	Shortage in the number of essential drugs (*per cent*)
Deoghar	04	19 (83)
East Singhbhum	08	15 (65)
Hazaribag	12	11 (48)
Palamu	07	16 (70)
Ranchi	Records not furnished	NA
Ramgarh	17	6 (26)

(Source: Records of test-checked DHs)

As shown in **Table 4.8**, the shortage of essential drugs in OTs ranged between 26 and 83 *per cent* in five test-checked DHs. No information was made available by DH Ranchi. Thus, acute shortage of drugs in OTs in the

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

test-checked DHs would have an adverse impact on surgical treatment by these test-checked DHs.

The Department replied (January 2021) that necessary drugs were available in OTs of DHs, Deoghar, Palamu and Ramgarh without giving the lists of drugs. No replies were furnished in respect of DHs, East Singhbhum and Hazaribag.

The reply of the Department is not acceptable as shortage of drugs ranging between 26 and 83 *per cent* was noticed at DHs, Deoghar, Palamu and Ramgarh as given in **Table 4.8**.

4.3.3 Documentation of OT procedures

NHM Assessor's Guidebook prescribes that surgical safety checklist, pre-surgery evaluation records and post-operative evaluation records for OTs should be prepared for each case. The status of records in the six test-checked DHs during the sampled[22] months is given in **Table 4.9**.

Table 4.9: Documentation of OT procedures

Name of DH	No of major surgeries performed	Surgical safety checklist	Pre-surgery evaluation records	Post-operative evaluation records
Deoghar	59	0	0	0
East Singhbhum	25	25	25	25
Hazaribag	277	0	246	246
Palamu	246	0	0	0
Ramgarh	47	0	0	0
Ranchi	151	0	151	151
Total	**805**	**25**	**422**	**422**

(Source: Records of test-checked DHs)

Table 4.9 shows that only DH, East Singhbhum maintained proper records of surgeries. While three DHs (Deoghar, Palamu and Ramgarh) did not maintain records at all, it was partially maintained in DHs, Hazaribag and Ranchi. Thus, in the absence/partial maintenance 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.

The Department accepted (January 2021) the facts in respect of DH Ramgarh and stated that documentation was being maintained in DHs, Deoghar and Palamu.

The reply of the Department is not acceptable as it was noticed that while documentation of OT procedures were partially maintained in DH Deoghar, it was not being maintained at all in DH Palamu during 2014-19.

[22] Sampled weekly data for May 2014, August 2015, November 2016, February 2018 and May 2018

4.4 Intensive Care Unit

As per IPHS, Intensive Care Unit (ICU) facility in DHs is essential for providing highly skilled lifesaving medical aid and nursing care to critically ill patients. At least five *per cent* of the total beds should be available for ICU in each DH which may gradually be expanded up to 10 *per cent*.

The Department proposed (2016-17) to establish five bedded ICUs in 21 DHs. As informed (June 2020) by the Directorate, ICUs were established in nine[23] DHs between July 2016 and May 2017 whereas it could not be established (June 2020) in the remaining 12 DHs due to lack of human resources and non-availability of required space.

Thus, ICUs were available only in nine out of the 23 DHs in the State. Thus, proper medical aid and nursing care could not be provided to critically ill patients in 14 DHs.

4.4.1 Availability of ICU services

Audit observed that out of six test-checked DHs, ICU was functional only in DH, Deoghar. It was further observed that ICU could not be made functional in DH, Palamu despite availability of trained manpower (12 personnel), equipment (worth ₹ 35.56 lakh) and earmarked space for which no reason was furnished to audit. Photographs of the non-functional ICU in DH, Palamu with idle machines and equipment is given below:

	
Non-functional ICU at DH Palamu (Photograph taken on 14.02.2020)	***Idle equipment of ICU, DH, Palamu (Photograph taken on 14.02.2020)***

Thus, critical patients were deprived of ICU facilities in five test-checked DHs and were dependent on higher public health facility or private hospitals in case of emergency.

The Department while accepting (January 2021) non-establishment of ICUs in DHs East Singhbhum and Hazaribag, stated that ICU facilities are presently available at Medini Rai Medical College Hospital (earlier DH, Palamu). The claim of the Department about existence of ICU facilities in

[23] Deoghar, Dumka, Godda, Jamtara, Bokaro, Simdega, Sahibganj, Palamu and West Singhbhum

Palamu is not acceptable as it was found to be non-functional. No reply was furnished in respect of DHs Ramgarh and Ranchi.

4.4.2 Equipment in ICU

As per IPHS, each bed of ICU is required to be equipped with essential equipment viz., High-end Monitor, Ventilator, Defibrillator, Infusion pumps etc. Further, Ultrasound for invasive procedures and Arterial Blood Gas (ABG) analysis machine should also be available. One nurse is also required for each bed in ICU.

Audit observed that in ICU of DH, Deoghar, five High-end Monitors as required were available. However, against the requirement of five, only two ventilators, three infusion pumps and one defibrillator were available. Ultrasound for invasive procedures and Arterial Blood Gas (ABG) analysis machine were also not available. Further, though available, ventilators and the defibrillator (valuing ₹ 26.17 lakh) could not be used since July 2016 due to non-availability of trained personnel.

Again, as per duty roster of nurses, only one nurse was deployed in each shift in the 05 bedded ICU of DH, Deoghar and was attending, on an average, three patients per day during the sampled month (February 2018).

Thus, due to shortage/non-functioning of equipment and inadequate human resources in the ICU, optimum service delivery to critical patients could not be ensured.

No specific replies to the audit observations were furnished by the Department.

4.4.3 Drugs in ICU

NHM Assessor's Guidebook prescribes 14 essential drugs for an ICU. Audit observed that in five sampled months, six drugs (Activated Charcoal, Salbutamol, Digoxin, Vitamin K, Sodium Chloride and Antiserum Polyvalent Snake Venom) were not available in the ICU of DH, Deoghar. Further, of these six drugs, two drugs (Salbutamol and Antiserum Polyvalent Snake Venom) were available in Central Store of DH Deoghar only in one month (May 2018) out of five months test-checked.

In reply, the Department stated that the prescribed drugs were available in the ICU at DH Deoghar. The reply is not acceptable as the prescribed drugs were found to have been available only during one month out of five months test-checked.

4.5 Emergency services

4.5.1 Accident and trauma care services

Out of six test-checked DHs, Accident and Trauma Ward was available only in DH, Hazaribag whereas four DHs (Deoghar, East Singhbhum, Palamu

and Ranchi) were providing primary care to trauma patients in their Emergency ward. DH, Ramgarh was providing primary care in the Casualty and Dressing room since June 2016. Thus, separate Accident and Trauma ward for providing better care to such patients were not available in five test-checked DHs and patients were being referred to the nearest government higher health facility.

The Department accepted (January 2021) the facts in respect of DH Deoghar. However, no replies were furnished in respect of four DHs (East Singhbhum, Palamu, Ramgarh and Ranchi).

4.5.2 Equipment in accident and trauma care wards

Out of 14 equipment prescribed in NHM Assessor's Guidebook for Accident and Trauma care, six equipment - Multiparameter torch, HIV kit, Defibrillator, Laryngoscopes, Laryngeal Mask Airway and Crash cart (used for examination & monitoring of patients, undertaking diagnostic procedures for resuscitation and for providing intensive and critical care to patients and storage of essential medicine and tools) were not available in DH, Hazaribag which may affect the quality of medical care administered to the patients in the Trauma Centre.

The Department accepted (January 2021) the facts and stated that action would be taken to purchase essential equipment for emergency and Trauma Centre of DH, Hazaribag.

4.5.3 Triaging of patients and average turn-around time

NHM Assessor's Guidebook prescribes standard treatment protocol for triaging[24] of patients getting admitted in an emergency department.

There were no records of triaging being done in the six test-checked DHs during 2014-19. Audit could not ascertain the average turn-around time of the patients of the Emergency Department as DHs did not maintain relevant records.

Thus, assurance could not be drawn regarding efficacy of the emergency services in terms of classification of patients according to the criticality of their condition and the turn-around time.

The Department while accepting (January 2021) the facts in respect of DH Hazaribag stated that triaging of patients would be done and average turnaround time would be worked out. The Department, however, did not furnish replies in respect of the remaining five test-checked DHs.

[24] Triaging is the process to determine the priority among patients for their treatments in accordance with the severity of their condition or likelihood of recovery.

4.5.4 Continuity of care during emergency

As per NHM Assessor's Guidebook, hospitals were required to provide appropriate facilities and referral linkage to the patients who have been referred to other/ higher health facilities to ensure continuity of care.

Audit observed that none of the test-checked six DHs maintained records of cases referred to other/higher health facilities from OPDs and Emergency. In case of IPD patients, referral was found mentioned only in Bed Head Ticket (BHT)s/IPD register but Refer out registers were not maintained in five DHs (except DH Ramgarh) to show provision of facilities or referral linkage to patients. In the absence of these records, Audit could not assess facilities provided by DHs to the referred patients, linkage of DHs with higher facilities where patients were referred and follow up of continuity of care of referred patients.

The Department accepted (January 2021) the facts in respect of DH Hazaribag. However, no replies were furnished in respect of DHs Deoghar, East Singhbhum, Palamu and Ranchi.

4.6 Burn Ward

Government of Jharkhand approved (August 2014) 10 bedded separate burn units for each DH with adequate infrastructural facilities for burn management and rehabilitation. Out of six test-checked DHs, buildings for burn units were constructed and handed over (September 2015 and January 2017) to the Civil Surgeons of four DHs (Deoghar, East Singhbhum, Ramgarh and Ranchi). Construction of burn unit building was cancelled in two DHs (Palamu and Hazaribag) due to non-availability of land.

Audit observed that burn units could not be made operational in three DHs (East Singhbhum, Ramgarh and Ranchi) due to lack of required man-power[25] and the equipment and buildings were lying idle. Burn patients were being referred to the nearest government higher health facility from these three DHs.

In DH, Deoghar, the unit constructed for the Burn ward was being used as TB centre and an eight bedded Burn ward was running in a separate room within the hospital building. Two DHs (Hazaribag and Palamu) did not have Burn wards and burn patients were being treated in Surgical and Medicine Wards using screen separators. Photographs of the idle building of Burn Unit and burn wards within hospital buildings are given below.

[25] Minimum requirement of manpower for burn ward- Physiotherapist -2, Staff Nurse-8 Dresser- 3 and Multi purpose worker - 8

Photograph showing non-functional burn unit at DH, Ramgarh as on 23.01.2020

Photograph showing newly built burn unit being used as TB centre in DH, Deoghar as on 22.01.2020

Photograph showing Burn ward at DH Deoghar running in a separate room as on 22.01.2020

Thus, the burn patients were deprived of specialised burn care services in three test-checked DHs.

The Department accepted (January 2021) the facts in respect of DH Deoghar. However, no replies was furnished regarding non-operationalisation of burn units at DHs, East Singhbhum, Ramgarh and Ranchi.

4.7 Orthopaedic services

Audit observed that Orthopaedic services were not available in three (East Singhbhum, Ramgarh and Ranchi) out of the six test-checked DHs due to non-availability of specialists and equipment.

The Department while accepting (January 2021) the facts in respect of DH East Singhbhum stated that vacant posts would be filled up. No replies was furnished in respect of DHs, Ramgarh and Ranchi.

4.8 Ophthalmic Services

As of March 2019, Ophthalmic services were available in four (Hazaribag, Palamu, Ramgarh and Ranchi) out of the six-test checked DHs. In DH, Deoghar, though this service was available between March 2014 and April 2016, it was discontinued thereafter due to non-posting of a Specialist.

Ophthalmic services were started in DH, Hazaribag only from December 2018.

4.8.1 Equipment for Ophthalmology

IPHS prescribes 24 types of equipment for ophthalmology. Equipment available in the Ophthalmic departments of the test-checked DHs is shown in **Table 4.10**.

Table 4.10: Availability of equipment in Ophthalmology

Name of DHs	Ophthalmology		
	Number of equipment required as per IPHS	Number of equipment available	Shortage (in *per cent*)
Deoghar	24	21	3 (13)
East Singhbhum	24	7	17 (71)
Hazaribag	24	19	5 (21)
Palamu	24	9	15 (63)
Ramgarh	24	16	8 (33)
Ranchi	24	19	5 (21)

(Source: Test-checked hospitals)

Table 4.11 shows that none of the test-checked DH had all the equipment for Ophthalmology as required under IPHS. In DHs East Singhbhum and Palamu, shortage was to the extent of 71 and 63 *per cent* respectively.

The Department accepted (January 2021) the facts in respect of DHs, Deoghar and East Singhbhum. However, no replies were furnished in respect of the remaining four test checked DHs.

4.9 Other Services

4.9.1 Dietary services

IPHS envisages dietary service as an important therapeutic tool and requires that it should be documented through a Diet Register. Diet to maternity in-patients is to be provided free of cost under *Janani Shishu Suraksha Karyakram* (JSSK) and to other in-patients from State funds. Rates for the diets (breakfast, lunch and dinner) was ₹ 100 per patient per day under JSSK whereas for other in-patients, it was ₹ 50 per patient per day.

Audit scrutiny revealed that:

- Diet was provided to maternity/ other in-patients through outsourced agencies in four test-checked DHs. In two DHs (Ranchi and Palamu), it was provided through in-house canteen. However, none of the six test-checked DHs had a system of quality testing of the diet provided to in-patients during 2014-19 though prescribed in IPHS. Resultantly, audit could not derive an assurance regarding the quality of the diet provided to in-patients in the test-checked DHs.

- In DH, Ramgarh, free diets were being provided to the indoor

maternity patients under JSSK. However, other in-patients were not provided free diets despite funds for free diet being provided by the State Government under the sub-head '*Samagri aur Aapurti'* of Major Head 2210. Thus, in-patients other than maternity patients were deprived of free diet despite availability of State funds.

➢ In DH, Ramgarh, space for canteen was not provided to the outsourced agency and meals were being prepared in a partially constructed building in un-hygienic environment. Similar was the condition at DH, Hazaribag as depicted in the photographs below.

Photographs showing kitchens running in the test-checked DHs:

Kitchen running in dilapidated building in DH, Hazaribag as on 04.01.2020

Kitchen running in under construction building in DH, Ramgarh as on 19.02.2020

The Department did not respond to the audit observations.

4.9.2 Ambulance Services

As per IPHS, DHs shall have well equipped Basic Life support (BLS) and desirably one Advanced Life Support (ALS) ambulance. Ambulances shall be provided with communication system along with required man-power.

Requirement and availability of Ambulances and man-power in test-checked DHs is given in **Table 4.11**.

Table 4.11: Requirement and Availability of Ambulances and manpower

Sl. No	Particulars	Name of DH					
		Deoghar	East Singhbhum	Hazaribag	Palamu	Ramgarh	Ranchi
1	Number of beds sanctioned	100	100	250	200	100	200
2	Number of ambulances required[26]	03	03	03	03	03	03
3	Number of ambulances in service	02	01	03	02	03	03

[26] Every ambulance should have one driver and two technicians.

Sl. No	Particulars	Name of DH					
		Deoghar	East Singhbhum	Hazaribag	Palamu	Ramgarh	Ranchi
4	Shortage of ambulances	01	02	00	01	00	00
5	Number of drivers available	02	01	03	04	03	04

(Source: Test-checked DHs)

Audit observed that, against the requirement of 18 ambulances, 14 ambulances were in service in the six test-checked DHs. Further, no technicians were available with any ambulance though two were to be deployed with each ambulance as per IPHS norms.

The Department accepted the facts in respect of DHs Deoghar and Hazaribag. However, no replies was furnished in respect of the remaining four DHs.

Further, Jharkhand Rural Health Mission Society (JRHMS) signed (October 2015) a Memorandum of Understanding (MoU) with a private agency (Ziqitza Health Care Ltd. Mumbai, Maharashtra) to render ambulance services in the State on contract basis. The service "108 Ambulance Service" commenced in November 2017. The Agency was running 327 ambulances of which 40 ambulances were equipped with Advanced Life Support (ALS) and 287 with Basic Life Support (BLS). As per information furnished by NHM, 5,39,391 patients were provided 108 Ambulance Service during 2017-21 (up to December 2020).

4.10 Patient Safety

4.10.1 Disaster Management in DHs

NHM Assessor's Guidebook read with IPHS norms envisage that every DH should have a dedicated Disaster Management Plan (DMP). DMP should clearly define the authority with their responsibilities and mechanism to mobilise resources.

Audit observed that DMP was prepared only in one (East Singhbhum) out of the six test-checked DHs. Thus, five DHs[27] lacked proper plan in case of any kind of disaster.

The Department did not furnish replies to the audit observations.

4.10.2 Safety from Fire

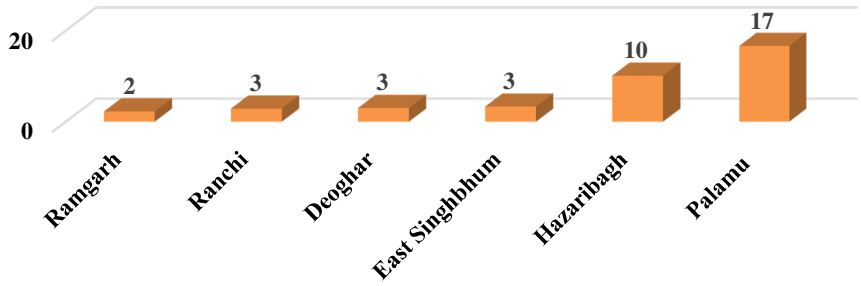
IPHS provides that hospital buildings should be equipped with fire protection features. National Building Code of India, 2005 (updated in 2016) also stipulates that fire extinguishers (FEs)/fire hydrants must be installed in every hospital to ensure safety of patients, attendants, visitors

[27] Deoghar, Hazaribag, Palamu, Ramgarh and Ranchi.

and the hospital staff in case of any fire mishap in the hospital premises.

Audit observed that fire hydrants[28] were not installed in any of six test-checked DHs. However, FEs[29] were available in all the six test-checked DHs. Sufficiency of FEs in the test-checked DHs could not be ascertained in the absence of any prescribed norms. However, number of available FEs were not uniform in all test-checked DHs. Number of beds per FEs in the test-checked DHs is as shown in **Chart 4.1**.

Chart 4.1 Numbers of beds per fire extinguisher



Thus, while one fire extinguisher was available against less than five beds in four DHs (Deoghar, East Singhbhum, Ramgarh and Ranchi), in DHs Hazaribag and Palamu, only one fire extinguisher was available against 10 and 17 functional beds respectively.

The Department while accepting the facts in respect of DH, Hazaribag stated that requirement of fire hydrants and extinguishers would be assessed and necessary action would be taken to purchase and install them. Regarding DH, Palamu, it was stated that firefighting system was being installed with renovation of Medini Rai Medical College and Hospital, Palamu. Regarding DH Deoghar, it was stated that sufficient FEs were available while no reply was furnished in respect of DHs, Ramgarh and Ranchi.

4.11 Evaluation of Outcome Indicators

IPHS stipulates preparation of Outcome Indicators (OIs) like Bed Occupancy Rate (BOR), Leaving Against Medical Advice (LAMA) Rate, Patient Satisfaction Score (PSS), Average Length of Stay (ALoS), Adverse Event Rate (AER), Completeness of Medical Records, Absconding Rate, Referral Out Rate (ROR), Discharge Rate (DR) and Bed Turnover Rate (BTR) by each DH (***detailed in Appendix 4.2***). Audit findings with respect to above OIs against IPD services provided during 2014-19 in the six test-checked DHs are discussed in the succeeding paragraphs.

[28] A separate water connection point from which water can be tapped in case of fire mishap

[29] In the absence of any benchmark or fire safety audit, number of fire extinguishers available were compared against the total number of beds

4.11.1 Bed Occupancy Rate

Bed Occupancy Rate (BOR) is an indicator of the productivity of hospital services and is a measure of verifying whether the available infrastructure and processes are adequate for delivery of health services. As per IPHS, the BOR of hospitals should be at least 80 *per cent*.

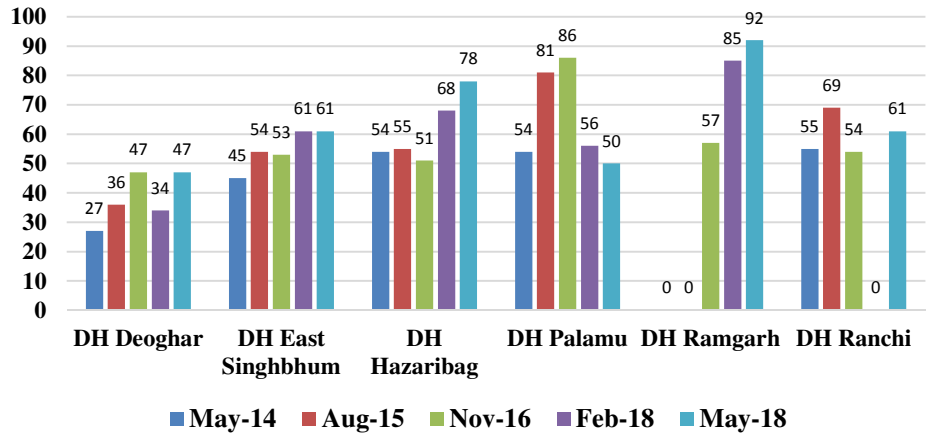
Audit observed that BOR was prepared by DH, East Singhbhum (since February 2018) and DH, Ramgarh out of the six test-checked DHs. BOR calculated[30] by Audit in respect of five sampled months for all the test-checked DHs except DH, Ramgarh is given in **Table 4.12** and **Chart 4.2**.

Table 4.12: BOR in the test-checked DHs of sampled months

Name of DH	Bed Occupancy Rate (BOR)				
	May 2014	August 2015	November 2016	February 2018	May 2018
Deoghar	27	36	47	34	47
East Singhbhum	45	54	53	61	61
Hazaribag	54	55	51	68	78
Palamu	54	81	86	56	50
Ramgarh	NA*	NA	57	85	92
Ranchi	55	69	54	-	61

*Note: Records for 2014-16 were not available in DH, Ramgarh.
(Source: Records of test-checked hospitals)

Chart 4.2: BOR in the test checked DHs of sampled months



It can be seen from **Table 4.12** and **Chart 4.2** that the desired BOR of more than 80 *per cent* was achieved only by two DHs (Palamu and Ramgarh) during two months. However, improvement in BOR was visible in May 2018 with respect to May 2014 in all DHs except DH, Palamu where it decreased to 50 *per cent* in May 2018 from 54 *per cent* in May 2014.

The Department accepted (January 2021) the facts in respect of DH Hazaribag and Ramgarh and stated that necessary action would be taken to

[30] BOR = Total Patient Bed Days / (Functional Beds in DH x Calendar Days in month) x 100

improve the quality of IPD services in order to improve BOR. The Department did not furnish replies in respect of DHs, Deoghar, East Singhbhum, Palamu and Ranchi.

4.11.2 Bed Turnover Rate

Bed Turnover Rate[31] (BTR) is the rate of usage of beds in an in-patient department in a given period of time and is a measure of the utilisation of the available bed capacity and serves as an indicator of the efficiency of the hospital. High BTR indicates high utilisation of the in-patient beds in a department while low BTR could be due to fewer patient admissions or longer duration of stay in the departments.

Audit observed that BTR had not been worked out by any test-checked DH during 2014-19. BTR calculated by Audit in respect of five test-checked DHs except Ramgarh[32] for five sampled months is shown in **Table 4.13**.

Table 4.13: BTR in sampled months in the test checked DHs

Name of DH	Bed Turnover Rate (BTR)				
	May 2014	August 2015	November 2016	February 2018	May 2018
Deoghar	1	2	1	1	2
East Singhbhum	3	4	3	3	3
Hazaribag	7	8	6	7	10
Palamu	4	11	8	4	5
Ranchi	11	8	8	-	6

(Source: Test-checked DHs)

Table 4.13 shows that BTRs of two DHs (Deoghar and East Singhbhum) were much lower compared to BTRs of other DHs which indicated comparative inefficiency of these two test-checked DHs.

The Department accepted (January 2021) the facts in respect of DHs, Hazaribag and Ramgarh and stated that quality of IPD services would be improved so that BTR improves. The Department did not furnish replies in respect of the remaining four DHs (Deoghar, East Singhbhum, Palamu and Ranchi).

4.11.3 Referral out rate

As per IPHS norms, referral services to higher government health facility centres denote that the facilities for treatments were not available in the hospitals. The Referral Out Rate (ROR) during sampled months[33] for in-patients calculated by audit in the test-checked DHs is given in **Table 4.14**.

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31 In-patient discharged (including deaths) during the month/functional beds

32 In DH Ramgarh, BTR could not be calculated as details of discharge was not mentioned in BHTs/ other related records

33 May 2014, August 2015, November 2016, February 2018 and May 2018

Table 4.14: ROR during sampled months for in-patients in test checked DHs during 2014-19

Name of DHs	Referral out Rate (ROR) (*percentage*)
Deoghar	4.57 to 8.03
East Singhbhum	6.56 to 16.97
Hazaribag	6.34 to 9.14
Palamu	0.24 to 0.59
Ramgarh	3.06 to 6.55
Ranchi	1.67 to 5.58

ROR= No of patients referred in the month*100/ Total Admission
(Source: Records of test-checked DHs)

It can be seen from **Table 4.14** that RORs of three (Deoghar, East Singhbhum and Hazaribag) test-checked DHs was on the higher side compared to RORs of the remaining three test-checked DHs which indicated inadequate health care facilities in the DHs with higher ROR.

The Department accepted (January 2021) the facts in respect of DH Hazaribag and Ramgarh and stated that reason for high referral rate would be assessed and services would be improved to reduce the ROR. The Department did not furnish replies in respect of the remaining four DHs (Deoghar, East Singhbhum, Palamu and Ranchi).

4.11.4 Average Length of Stay

Average Length of Stay[34] (ALoS) is an indicator of clinical care capability and determines the effectiveness of interventions. ALoS is the time between the admission and discharge/death of the patient.

Audit noticed that none of test-checked DHs prepared ALoS during 2014-19. ALoS (in days) during sampled months in the test-checked DHs except Ramgarh[35] calculated by audit is given in **Table 4.15**.

Table 4.15: ALoS in test checked DHs

Name of DHs	ALoS during 2014-19 (*in days*)
Deoghar	1 to 2
East Singhbhum	4 to 6
Hazaribag	2
Palamu	2 to 3
Ranchi	1 to 3

(Source: Test-checked DHs)

ALoS was high in DH, East Singhbhum in comparison to the other test-checked DHs. Thus, due to non-preparation of ALoS by the DHs, hospital authorities were not able to determine their clinical care capability and effectiveness of interventions.

The Department accepted the facts in respect of DH Hazaribag and Ramgarh and stated that the monthly rate of ALoS would be calculated. The

[34] ALoS = Total Patient Bed Days in the month (excluding newborn) / Discharges in the month (including Death, LAMA, absconding)

[35] In DH Ramgarh, ALoS could not be calculated as details of discharge was not mentioned in BHTs/ other related records

Department did not furnish replies in respect of the remaining four DHs (Deoghar, East Singhbhum, Palamu and Ranchi).

4.11.5 Adverse Event Rate (AER)

Adverse outcomes with respect to healthcare received are known as adverse events (wrong drug administration, needle stick injury etc.) which should be identified quickly and managed to limit their detrimental effects on the patients/staff. Typology of adverse events can also indicate specific problems in the system.

Audit observed that records relating to AER were not maintained by the test-checked DHs during 2014-19. In the absence of AER, the test-checked DHs were not in a position to quickly assess and manage the detrimental effects of adverse events.

The Department accepted (January 2021) the facts in respect of DHs Hazaribag and Ramgarh and stated that records related to adverse event rate would be maintained. The Department did not furnish replies in respect of the remaining four DHs (Deoghar, East Singhbhum, Palamu and Ranchi).

4.11.6 Leaving against Medical Advice

To measure service quality of a hospital, Leaving against Medical Advice (LAMA) Rate[36] and Absconding Rate[37] are evaluated. LAMA is the term used for a patient who leaves the hospital against the advice of the doctor and Absconding Rate refers to patients who leave the hospital without informing the hospital authorities.

To assess these rates, Audit scrutinised the IPD registers of five sampled months in the six test-checked DHs. Admission registers did not have mention of absconding patients. LAMA rate per thousand admission in sampled month of test-checked DHs is presented in **Table 4.16**.

Table 4.16: LAMA Rate in test checked DHs

Nam of DHs	LAMA Rate during 2014-19
Deoghar	344 to 433
East Singhbhum	8 to 107
Hazaribag	148 to 235
Palamu	152 to 274
Ramgarh	4 to 37
Ranchi	58 to 113

(Source: Records of test-checked hospitals)

Table 4.16 shows that LAMA Rate was alarmingly high in three DHs (Deoghar, Hazaribag and Palamu) while it was the least in DH, Ramgarh.

[36] LAMA rate = Total No. of LAMA cases x 1000 / Total No. of Admissions.
[37] Absconding rate = Total No. of Absconding cases x 100 / Total No. of Admissions.

Higher LAMA Rate indicated poor service quality in the concerned DHs.

The Department accepted the facts in respect of DH Hazaribag and Ramgarh and stated that necessary action would be taken to decrease the LAMA rate without stating how it will be done. The Department did not furnish replies in respect of the remaining four DHs (Deoghar, East Singhbhum, Palamu and Ranchi).

4.12 Completeness of medical records

The Regulations on Graduate Medical Education 2012 of Medical Council of India (MCI) prescribes maintenance of accurate, clear and appropriate records of the patient in conformity with the legal and administrative framework. Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations 2002 contain the format for doctors to maintain medical records of patients in which details of the patients are required to be filled. These records are essential to measure effectiveness of care received by the patient, for legal purposes as well as for follow-up treatment.

Scrutiny of 1,651 Bed Head Tickets[38] (BHTs) of three sampled months[39] in the six test-checked DHs revealed that the required details were not filled in BHTs as shown in **Table 4.17** and **Chart 4.3**.

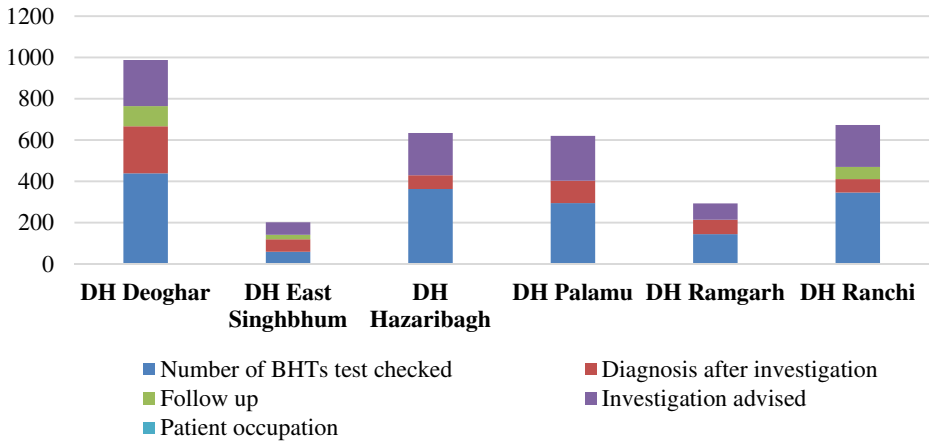
Table 4.17: Status of completeness of BHTs during 2014-19

Name of DH	Particulars				
	No of BHTs test-checked	Diagnosis after investigation	Follow up	Investigation advised	Patient occupation
Deoghar	440	227	98	223	00
East Singhbhum[40]	60	60	22	60	00
Hazaribag	364	66	00	205	00
Palamu	295	109	00	216	00
Ramgarh	145	69	00	80	00
Ranchi[41]	347	64	60	203	00
Total	**1651**	**595**	**180**	**987**	**0**

(Source: Records of test-checked DHs)

[38] Bed Head Ticket is a form of chart wherein medical history of a patient from the date of his admission till the date of his discharge is written.
[39] February 2017, February 2018 and May 2018
[40] January, February and March 2019
[41] February 2017 and May 2018

Chart 4.3: Status of completeness of BHTs during 2014-19



It can be seen from **Table 4.17** and **Chart 4.3** that details of diagnosis were not found entered by DHs in all BHTs except in DH East Singhbhum. Follow-up was another detail which was not given due care in BHTs.

Thus, deficiencies in filling up the BHTs properly had an impact on the continuity and efficiency of medical care provided to the patient, especially in case of follow-up.

The Department accepted (January 2021) the facts in respect of three (Hazaribag, Ramgarh and Ranchi) out of the six test-checked DHs. Regarding DH, Ranchi, it was stated that BHT and other records could not be maintained properly due to non-availability of medical record room and manpower. It was further stated that necessary instructions would be issued to DHs, Hazaribag and Ramgarh to maintain and complete the medical records. Reply of the Department is not satisfactory as Medical Records come under "Essential Administrative Services" under IPHS Guidelines. It was also stated that two test-checked DHs (Deoghar and Palamu) were presently maintaining records whereas no reply was furnished for DH, East Singhbhum.

4.13 Patient Satisfaction Score

Patient satisfaction score (PSS) is an indicator of patient satisfaction and acts as an important monitoring and feedback mechanism for IPDs.

Audit observed that survey was conducted on 66 IPD and 70 OPD patients by three (East Singhbhum, Hazaribag and Ranchi) out of the six test-checked DHs to analyse PSS. Survey was conducted on five parameters each for IPD[42] and OPD[43] services. In case of IPD survey, four out of 25 patients responded that IPD services at DH, Hazaribag was poor. The

[42] Waiting time for registration, cleanliness of ward, cleanliness of beds, regular attendance of doctor and overall satisfaction.

[43] Waiting time for registration, cleanliness of OPD and service utilities, attitude and skill of doctor, time taken for investigation, response of medicine counter.

remaining 62 patients were satisfied with IPD services ***(Appendix 4.3)***. Similarly, with regard to OPD services, six out of 70 patients responded that OPD services was poor on different parameters ***(Appendix 4.3)***.

Three[44] test-checked DHs which did not conduct PSS missed the opportunity to identify gaps based on feedback by patients and developing an effective action plan for quality improvement in their respective hospitals.

Further, the Ministry of Health and Family Welfare, GoI launched (2018) *Mera Aspatal* web portal to capture patient feedback for the services received at the hospital through user-friendly multiple channels such as Short Message Service, Outbound Dialling mobile application and through web portal.

As per the feedback provided by the patients, satisfaction levels of various services and other aspects of DHs was displayed on the *Mera Aspatal* web portal. Data of *Mera Aspatal* available for two DHs (Deoghar and Ramgarh) for the period 2018-19 is shown in **Table 4.18**.

Table 4.18: Result of Patient Satisfaction Survey by *Mera Aspatal*

Name of DH	No. of patient surveyed	Patient satisfaction level		Areas of dis-satisfaction (in *per cent*)		
		Very satisfied/ satisfied	Not satisfied	Staff behaviour	Cleanliness	Cost of treatment
Deoghar	117	76	41	46	11	27
Ramgarh	87	58	29	22	11	44

It can be seen from **Table 4.18** that the main area of dissatisfaction amongst patients were staff behaviour and the cost of treatment. This indicated that patients were still not getting sufficient and affordable health care at DHs.

The Department did not furnish replies to the Audit observations.

***To sum up**, audit scrutiny of IPD services revealed that there were significant shortage of doctors/specialists, drugs and equipment besides deficiencies in OT services. Dietary support to patients was deficient and varied from hospital to hospital. Patient safety in the hospital premises was compromised on account of non-compliance with Disaster Management Guidelines and there was lack of proper fire safety arrangement in the test-checked DHs.*

[44] Deoghar, Palamu and Ramgarh.

Chapter 5 Maternity Services

Maternal Mortality Ratio[45] (MMR), Neonatal Mortality Rate[46] (NMR), Under 5 Mortality Rate[47] (U5MR) and Infant Mortality Rate[48] (IMR) are important indicators of the quality of maternity services available. Antenatal care (ANC), Intra-partum care or delivery care (IPC) and Postnatal care (PNC) are the major components of facility based maternity services. ANC is the systemic supervision of a woman during her pregnancy to monitor the progress of foetal growth and to ascertain the well-being of the mother and the foetus. Under IPC, interventions for safe delivery in labour room and operation theatre are performed. PNC includes medical care of the mother and newborn after delivery of the child especially during the 48 hours post-delivery, which are considered critical.

Norms for provisioning of various maternal health services and resources, viz., human resources, drugs, consumables and equipment for different levels of hospitals have been specified in Maternal and Neonatal Health Toolkit 2013 (MNH Toolkit) and Guidelines of *Janani Shishu Suraksha Karyakram* (JSSK), prescribed by the GoI for delivery of quality maternal health services.

Audit scrutiny of records in the six test-checked DHs disclosed deficiencies in resource management and clinical efficiency, as discussed in the succeeding paragraphs:

5.1 Antenatal care

ANC involves general and abdominal examination[49] and laboratory investigations to monitor pregnancies, management of complications such as Reproductive Tract Infection (RTI)/ Sexually Transmitted Infection (STI) and comprehensive abortion care.

5.1.1 ANC check-ups of pregnant women

As per Guidelines for Antenatal Care (ANC) and Skilled Attendance at Birth, 2010, ANC associated services mandates provision of iron and folic acid (IFA) tablets, tetanus toxoid (TT) injection etc., to a pregnant women

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45 Number of maternal deaths per 1,00,000 live births due to maternal causes.
46 Number of death during the first 28 completed days of life per 1000 live birth
47 Number of deaths of infants (under five year) per 1,000 live births.
48 Number of deaths of infants (under one year) per 1,000 live births.
49 Weight measure, blood pressure, respiratory rate, check for pallor and oedema, abdominal palpation for foetal growth, foetal lie and auscultation of Foetal Heart Sound (FHS) *etc*.

(PW). Complete cycle[50] of ANC requires early registration of a pregnant women with a hospital.

As per Health and Family Welfare Statistics in India for the year 2019-20, MMR of Jharkhand was 165 against average national MMR of 122 in 2017.

Further, as per Health Management Information System (HMIS), 1.30 lakh pregnant women (PWs) were registered in the six test-checked DHs during 2014-19. Out of this, 51,526 (40 *per cent*) PWs were not provided complete cycle of ANC, 77,762 (60 *per cent*) PWs were not provided first TT injection, 85,743 (66 *per cent*) PWs were not provided second TT injection and 54,539 (42 *per cent*) PWs were not provided IFA tablets. Thus, the hospitals failed to provide adequate ANC services.

The Department did not furnish replies to the audit observations.

5.2 Comprehensive Abortion Care

Unsafe abortion due to pregnancy complications also contributes to maternal morbidity and mortality. MNH Toolkit prescribes the availability of Comprehensive Abortion Care (CAC) services at each hospital with availability of essential drugs.

Audit observed that CAC facility was available through labour rooms/gynaecology OTs in all the six test-checked DHs. During five sampled months[51], 134 abortion cases were found recorded in abortion registers in four[52] test-checked DHs with reasons recorded as induced/incomplete/missed/ continuous abortion, consumption of Medical Termination of Pregnancy (MTP) pills and bleeding.

Further, Audit could not assess the availability and consumption of essential medicines of CAC as no specific records was maintained in the labour rooms/gynaecology OTs.

The Department did not furnish replies except in respect of DH, Hazaribag, wherein it was stated that proper records would be maintained.

5.3 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 prevents stillbirths, neonatal deaths and other complications.

The quality of IPC is largely dependent on availability of essential resources and clinical efficiency of the medical and paramedical staff.

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50 Three ANCs upto 2016-17. From 2017-18 four ANC is required.

51 Except records of two sampled months (May 2014 and August 2015) of DH, Hazaribag which were not available and two DHs (East Singhbhum and Ramgarh) did not maintain the records of abortion cases.

52 Deoghar, Hazaribag, Palamu and Ranchi.

5.3.1 Availability of resources

MNH Toolkit/IPHS prescribes 21 drugs, 20 consumables, 28 equipment and 23 to 47 manpower based on average monthly deliveries for maternity services at DHs. Details of shortage of the four essential resources are discussed in the succeeding paragraphs.

5.3.1.1 Essential drugs

To ascertain the availability of 21 essential drugs in maternity IPDs as per MNH Toolkit, Audit examined drugs stock registers of five sampled months during 2014-19 in the six test-checked DHs and noticed non-availability of essential drugs as given in **Table 5.1**.

Table 5.1: Non-availability of essential drugs in maternity

Name of DH	Number of essential drugs not available during				
	May 2014	August 2015	November 2016	February 2018	May 2018
Deoghar	16	17	18	19	11
East Singhbhum	12	7	6	6	4
Hazaribag	13	17	14	14	13
Palamu	19	15	15	14	15
Ramgarh	RNA*	RNA	13	8	6
Ranchi	RNA	19	12	RNA	13
*RNA- Records not Available					

(Source: Records of test-checked DHs)

It can be seen from **Table 5.1** that there was acute shortage of drugs needed for maternity care with maternity IPDs of the test-checked DHs. Audit further observed that vital drugs like Hydralazine[53] was not at all available in the maternity IPDs of all the six test-checked DHs; Dopamine/ Methyldopa[54] was not available in five test checked DHs except in Ramgarh; Adrenaline, Calcium Gluconate and Diazepam[55] were not available in four DHs except in East Singhbhum and Ramgarh; Ampicillin was not available in four DHs except in East Singhbhum and Ranchi and Gentamycin was not available in three DHs (Hazaribag, Palamu, and Ranchi).

Non-availability of vital drugs such as Hydralazine (used to treat high blood pressure and heart failure), Dopamine (used to improve the pumping strength of the heart and to treat certain conditions that occur when patients are in shock which may be caused by heart attack, trauma, heart/ kidney failure etc.), Adrenaline (used in emergencies to treat very serious allergic reactions to improve breathing, stimulate the heart, raise a dropping blood pressure, etc.) compromised the ability of maternity IPDs to provide emergency and critical care.

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53 First-line treatment for acute hypertension in pregnancy
54 Used to treat high blood pressure in pregnancy
55 Anti-anxiety medication

The Department accepted (January 2021) the facts in respect of three DHs (Deoghar, Hazaribag, and Palamu). However, no replies were furnished in respect of the remaining three DHs (East Singhbhum, Ramgarh and Ranchi).

5.3.1.2 Essential Consumables

Scrutiny of records in the test-checked DHs revealed non-availability of 20 essential consumables as per MNH Toolkit in the sampled five months during 2014-19 as given in **Table 5.2**.

Table 5.2: Non-availability of essential consumables

Name of DH	Number of essential consumables not available during				
	May 2014	August 2015	November 2016	February 2018	May 2018
Deoghar	11	11	10	8	8
East Singhbhum	11	9	8	10	9
Hazaribag	16	15	14	12	13
Palamu	18	15	15	12	13
Ramgarh	Records not available		8	8	6
Ranchi	Information/ records not provided				

(Source: Test-checked DHs)

Audit noticed that essential consumables like draw sheets, identification tags and thread for sutures were not available in all the six test-checked DHs. Baby wrapping sheets were not available in two DHs (East Singhbhum and Hazaribag) and Nasogastric tubes were not available in three DHs (Deoghar, Hazaribag and Palamu) though these were required for delivery and other maternity services.

The Department did not furnish replies except in the case of DH, East Singhbhum, where baby wrapping sheets was stated to have been made available.

5.3.1.3 Essential Equipment

According to IPHS, DHs are required to ensure the availability of 28 types of equipment and instruments for examination and monitoring of patients under maternity. However, Audit observed that the test-checked DHs did not have essential equipment as of March 2020 as shown in **Table 5.3**.

Table 5.3: Equipment not available in DHs

Name of DHs	Number and name of essential equipment not available	
Deoghar	13	Baby Incubator, Cardiac Monitor, Cardio tocography monitor, CPAP machine, Craniotomy, Emergency resuscitation kit, baby Forceps delivery kit, Haemoglobinometer, Public address system, Room Warmer, Silastic vacuum extractor, Vacuum extractor metal and Weighing machine adult.
East Singhbhum	08	Cardiac Monitor, Cardio tocography monitor, CPAP machine, Craniotomy, Haemoglobinometer, Public address system, New-born care equipment and Vacuum extractor metal.
Hazaribag	15	Cardiac Monitor, Cardio tocography monitor, CPAP machine, Emergency resuscitation kit, Episiotomy kit, Haemoglobinometer, Nebuliser, New-born care equipment, Phototherapy unit, Public address system, Pulse oxymeter, Room warmer, Silastic vacuum extractor, Delivery Kit and Glucometer.
Palamu	06	Baby Incubator, CPAP machine, Cardiac tocography monitor, Head box for oxygen and Public address system.
Ramgarh	18	Baby Incubator, Cardiac Monitor, Cardio tocography monitor, CPAP machine, Craniotomy, Emergency resuscitation kit, Episiotomy kit, Head Box for Oxygen, Nebuliser, New-born care equipment, Public address system, Room warmer, Silastic vacuum extractor, Vacuum Extractor Metal, Weighing machine adult, Standard weighing scale, Delivery kit and Forceps delivery kit.
Ranchi	-	Information/ records not provided

It can be seen from **Table 5.3** that the test-checked DHs did not have the required equipment. Two DHs (Hazaribag and Ramgarh) lacked more than 50 *per cent* of essential equipment. Shortage of essential equipment compromised the ability of the hospitals to provide emergency and critical care.

The Department did not furnish any replies.

5.3.1.4 Essential human resources

MNH Toolkit prescribes manpower for maternity services based on an average of 100 to 500 deliveries per month in a hospital for quality service delivery with dignity and privacy to clients and for providing best possible care during pregnancy, delivery and postpartum to the patients as illustrated in **Table 5.4**.

Table 5.4: Manpower required under maternity services as per MNH Toolkit

Average deliveries per month	Doctors	Supporting personnel	Total
100-200	4	19	23
200-500	15	26	41
500 & above	17	30	47

Availability of manpower *vis-à-vis* requirement based on average monthly deliveries for maternity services in test-checked DHs during 2018-19 was as given in **Table 5.5**.

Table 5.5: Availability of manpower against requirement under maternity

Particular		Deoghar	East Singhbhum	Hazaribag	Palamu	Ramgarh	Ranchi
Average monthly delivery as per HMIS		465	122	697	565	299	634
Requirement of Doctors		15	4	17	17	15	17
Requirement of supporting staff		26	20	30	30	26	30
Sl. No.	**Available Manpower**						
1	Doctors	8	5	6	9	14	14
2	Supporting personnel	18	27	25	21	11	82
	Total	**26**	**32**	**31**	**30**	**25**	**96**

(Source: Records of test-checked DHs)

Audit noticed that service-wise specific manpower was not sanctioned in the test-checked DHs. However, as per information furnished by DHs based on working pattern of maternity wards, DH, East Singhbhum had sufficient manpower. However, there was short deployment of doctors ranging between seven and 65 *per cent* in five DHs[56] while short deployment of supporting personnel ranged between 17 and 58 *per cent* in four DHs. It was further seen that abnormally more (173 *per cent*) supporting personnel were deployed at DH, Ranchi.

Short deployment of manpower in maternity wards of test-checked DHs indicated that due care was not given to manage delivery related complications, ensure satisfactory new-born care and manage other maternal health emergencies.

The Department did not furnish replies to the audit observations.

5.3.2 Clinical efficiency

5.3.2.1 Preparation of Partographs

A Partograph[57] enables the birth attendant to identify and manage complications 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 examined 1,598 bed head tickets (BHTs) of three sampled months (November 2016, February 2018 and May 2018) in the six test-checked DHs. It was seen that in 1,394 (87 *per cent*) cases, partographs were not plotted as shown in **Table 5.6**.

[56] Deoghar, Hazaribag, Palamu, Ramgarh and Ranchi.

[57] Partograph is a graphic recording of the progress of labour and the condition of the mother and foetus.

Table 5.6: Numbers of partographs plotted

Name of DHs	November 2016		February 2018		May 2018	
	BHT	No. of Partographs	BHT	No. of Partographs	BHT	No. of Partographs
Deoghar	80*	17*	96	23	101	3
East Singhbhum	19	13	32	24	24	15
Hazaribag	136	0	166	0	145	0
Palamu	130	2	41	0	115	4
Ramgarh	53	9	55	6	69	19
Ranchi	96	22	110*	22*	130	25
Total	**434**	**46**	**390**	**53**	**584**	**66**

Figures of BHT and Partograph related to February 2017
(Source: Test-checked DHs)

Non-preparation of partographs in most cases compromised the ability of hospitals to improve the quality of service in the labour room so as to reduce the chances of adverse pregnancy outcomes.

The Department while accepting (January 2021) the facts in respect of three DHs (Deoghar, Hazaribag and Palamu) stated that partographs were now being plotted. No replies were furnished in respect of the remaining three DHs (East Singhbhum, Ramgarh and Ranchi).

5.3.2.2 Management of preterm labour

As per NHM Guidelines, babies born before completion of 37 weeks of pregnancy are termed as "pre-term babies" and have numerous challenges including difficulty in feeding, maintaining body temperature and increased susceptibility to infections also leading to neonatal deaths. The Guidelines stipulates that these complications can largely be prevented by administering injection of Corticosteroids (Betamethasone Phosphate/ Dexamethasone) to an expectant mother when she is diagnosed with pre-term labour within 34 weeks of gestation.

Audit observed that out of 7,325 deliveries performed during three sampled months (November 2016, February 2018 and May 2018) in the six test-checked DHs, 520 deliveries were reported as pre-term deliveries within 34 weeks of gestation in the labour room registers/BHTs. However, in respect of 53 deliveries, gestational period of pregnancy was not found recorded in the labour room registers of three DHs (Deoghar, Hazaribag and Ramgarh).

Out of 520 pre-term deliveries within 34 weeks of gestation where administration of Corticosteroid injection was needed, the injection was administered only in 469 cases. Reasons for not administering the injection in the remaining 51 cases, which included 34 cases in DH, East Singhbhum comprising of 13 pre-term deliveries in February 2018 and 21 in May 2018 was not on record.

Thus, pre-term babies remained at risk of serious post-natal complications

and neonatal deaths due to non-administration of Corticosteroid to the mothers.

The Department accepted (January 2021) the facts in respect of DH, Hazaribag. No replies were furnished in respect of the remaining five test-checked DHs.

5.4 Post-Partum and Newborn care

5.4.1 Post-partum care

Prompt post-partum care is important for early detection and management of any post-delivery complication such as post-partum haemorrhage and eclampsia[58] which can lead to maternal death. MNH Toolkit specifies health check-up of the mother and infant to be monitored and recorded in the Post-natal care (PNC) register.

It was noticed that none of the six test-checked DHs maintained PNC register during 2014-19. Therefore, audit could not assess whether the prescribed post-partum health check-up of mothers and new-borns were carried out by the test-checked DHs.

The Department accepted (January 2021) the facts in respect of DH, Hazaribag. No replies were furnished in respect of the remaining five test-checked DHs.

5.4.2 Special New-born Care Unit

As per IPH Standards, a Special New-born Care Unit (SNCU) is primarily needed to reduce the cases of fatality among sick children within the first 28 days of life. SNCU should have at least 12 beds along with facility of day and night shelter for mothers of neonates. SNCU facilities should provide controlled environment, individual warming and close monitoring devices, intravenous fluid and medications by infusion pump, central oxygen, oxygen generators, bedside procedures like resuscitation and exchange transfusion, portable x-ray and in-house laboratory services.

State Health Mission, Jharkhand proposed (2010-11) to provide SNCU facilities in 12 DHs of which four [59] DHs were taken up for establishing SNCU. Further, 13 SNCUs[60] were proposed (March 2017) to be established during 2016-17 which included two DHs (Dumka and Palamu) already taken up during 2010-11. As such, SNCUs were proposed (between 2010-11 and 2016-17) to be established in 15 DHs. As informed (June 2020) by the Mission Director, NHM, Jharkhand, SNCUs in all 15 DHs were established

[58] A condition in which one or more convulsion to a pregnant woman suffering from high blood pressure, often followed by coma and posing a threat to the health of mother and baby

[59] Dumka, Gumla, Palamu and West Singhbhum.

[60] Bokaro, Deoghar, Dumka, Giridih, Godda, Hazaribag, Jamtara, Koderma, Latehar, Pakur, Palamu, Sahibganj and Simdega

and made functional between June 2015 and January 2019. SNCU facilities were yet to be provided in the remaining nine DHs[61] as of May 2020.

Audit observed in test-checked DHs that:

- Twelve bedded SNCUs were made functional at three DHs (Deoghar Hazaribag and Palamu) out of the six test-checked DHs between November 2017 and January 2018 whereas in three DHs (East Singhbhum, Ramgarh and Ranchi), purchase of equipment was under process as of June 2020.
- As per IPHS, 14 types of essential equipment for individual patient care are required in SNCUs. Details of availability and shortage of equipment in SNCUs of three DHs are shown in **Table 5.7**.

Table 5.7: Availability of equipment in SNCUs

Sl. No	Item	Required quantity	Deoghar	Hazaribag	Palamu
1	Servo-controlled Radiant Warmer (1 for each bed +2)	14	12	17	12
2	Low-Reading Digital Thermometer (1 for each bed)	12	12	1	5
3	Neonatal Stethoscope (1 for each bed +2)	14	12	17	12
4	Neonatal Resuscitation Kit and Neonatal laryngoscope (1 for each bed +2)	14	0	12	6
5	Suction Machine (1 for each bed)	12	4	7	4
6	Oxygen Hood (unbreakable-neonatal/infant size) (1 for each bed)	12	10	35	12
7	Non stretchable measuring tape (mm scale) (1 for each bed)	12	12	2	1
8	Infusion pump or syringe pump (1 for every 2 beds)	6	4	9	3
9	Pulse Oxymeter (1 for every 2 beds)	6	6	6	6
10	Double Outlet Oxygen Concentrator (1 for every 3 beds)	4	4	8	4
11	Double Sided Blue Light Phototherapy (1 for every 3 beds)	4	6	0	0
12	Generator (15 KVA)	1	1	1	0
13	CFL Phototherapy (1 for every 3 beds)	4	12	0	6
14	Horizontal Laminar Flow	1	0	0	0
	Total	**116**	**95**	**115**	**71**

(Source: Test Checked DHs)

It can be seen from **Table 5.7** that distribution of SNCU equipment among DHs was skewed as some equipment was in excess of requirement in DH, Hazaribag whereas DH, Palamu was facing shortages.

- As per IPHS, 11 types of general equipment and 9 types of disinfection

[61] Chatra, Dhanbad, East Singhbhum, Garhwa, Khunti, Lohardaga, Ramgarh, Ranchi and Saraikela

equipment are also required in SNCUs. Audit noticed non-availability of six types of general equipment with DH, Palamu, four with DH, Hazaribag and two with DH, Deoghar. Similarly, seven types of disinfection equipment were not available in DH, Palamu and five types each in DHs, Deoghar and Hazaribag. On the other hand, 15[62] type of SNCU equipment valued at ₹ 20.19 lakh, purchased (June 2016 to January 2017) with funds under NHM, were lying idle in DH Ramgarh as of March 2020 as the SNCU was not functional due to lack of manpower.

Analysis of records relating to services at SNCUs of three test-checked DHs (Deoghar, Hazaribag and Palamu) for two sampled months (February 2018 and May 2018) disclosed that out of 248 admitted patients, 59 were referred to higher facilities, 28 left the hospital against medical advice (LAMA) and 5 died.

Short/ non-availability of required equipment in SNCUs could be a reason behind patients being referred either to higher facilities or leaving the hospital against medical advice.

The Department stated that essential equipment were available at DH Palamu without giving list of equipment. The reply is not acceptable as it was found that only 71 out of 116 essential equipment were available as shown in **Table 5.7**. No replies were furnished in respect of the remaining two test-checked DHs.

5.4.3 Immunisation to Newborns

Newborns are to be administered doses of three vaccines viz., OPV[63], BCG[64], and Hepatitis 'B' on the day of birth which are termed as zero dose.

As per HMIS data, there were 1,40,671 newborns in the six test-checked DHs during 2014-19. Zero dose of OPV was administered to 1,48,556 newborns, BCG to 1,76,703 and Hepatitis B to 1,29,137 in the test-checked DHs during 2014-19. DHs were also administering zero dose vaccines to newborns other than those born in the hospitals which could be the reason behind more children being administered OPV and BCG vaccinations than the newborns in DHs. However, administration of zero dose of Hepatitis B was not ensured to all newborns (1,40,671) of the test-checked DHs.

Audit further examined 424 cases of deliveries during the sampled month (May 2018) from the labour room registers in five test-checked DHs except Ranchi where records was not made available to audit. It was noticed that

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62 Infantometer, Procedure trolley, Spot lamp, Portable x-ray machine, Multi-channel monitor, Electric heater/boiler, Autoclave drum, Radiant warmer, Oxygen hood, Infusion pump, Oxygen pump, Oxygen concentrator, Generator, Phototherapy unit and ECG unit.

63 Oral Poliovirus Vaccine.

64 Bacillus Calmette-Guerin (BCG) vaccine, used against tuberculosis.

zero dose of OPV were administered to 46 *per cent*, BCG to 41 *per cent* and Hepatitis B to 45 *per cent* of newborns. Administration of vaccines to newborns in test-checked DHs ranged from 41 to 73 *per cent* ***(Appendix 5.1)***. Thus, administering of zero dose vaccines to all newborns of test-checked DHs were not ensured. Additionally, 73 *per cent* of test-checked newborns were administered Vitamin K injections as required.

Further, as per Health and Family Welfare Statistics in India for the year 2019-20, Neo Natal Mortality Rate (NMR) and Under Five Mortality rate (U5MR) in 2017 was 20 and 34 respectively in the State against the average national NMR and U5MR of 23 and 37 respectively. Though, the performance of the State was better compared to the national average, it could have been improved by administering zero dose vaccines to all newborns.

The Department stated (January 2021) that immunization of newborns was being done as per norms at DH, Deoghar. The reply is not acceptable as only 80 out of 101 newborns test-checked were administered BCG vaccines as given in ***Appendix 5.1***. No replies were furnished in respect of the remaining four DHs.

5.4.4 Discharge of mothers within 48 hours of delivery

As per Guidelines for Antenatal care and Skilled Attendance at Birth and *Janani Shishu Suraksha Karyakram* (JSSK), the first 48 hours after delivery is vital for detecting any complication and its immediate management for care of the mother and baby (including immunization). During this period, the mother is guided for initiating breast feeding, advised for intake of extra calories and fluids besides adequate rest which are needed for the well-being of the baby and herself.

As per HMIS data, 77 to 89 *per cent* of mothers were discharged from the hospital within 48 hours of delivery during 2014-19 in the six test-checked DHs as shown in **Table 5.8**.

Table 5.8: Details of mothers discharged within 48 hours of delivery

Year	Total number of deliveries	Mothers discharged within 48 hours of delivery	Percentage of discharge within 48 hours of delivery
2014-15	25,516	21,895	86
2015-16	26,244	23,260	89
2016-17	27,317	23,424	86
2017-18	29,680	24,233	82
2018-19	33,384	25,821	77

(Source: HMIS database)

Audit test checked 422 delivery cases in five sampled months and noticed that 16 to 78 *per cent* of mothers were discharged within 48 hours of

delivery in five[65] test-checked DHs. In DH, Deoghar, details of discharge were not found mentioned in BHTs. As such, detection of any post-partum complication and immediate management of care needed for the well-being of the baby and the mother could not be ensured by DHs. Thus, quality PNC services were not being ensured in the DHs.

The Department accepted the facts in respect of DH, Hazaribag. No replies were furnished in respect of four DHs (East Singhbhum, Palamu, Ramgarh and Ranchi). Regarding DH Deoghar, the Department stated that the lactating mothers were being discharged after 48 hours of delivery and after conducting necessary investigation. The reply of the Department in respect of DH, Deoghar was not acceptable as HMIS data showed that 27,767 out of 29,254 mothers were discharged within 48 hours of delivery during 2014-19.

5.4.5 Delay in payment of Cash Assistance for Institutional Delivery

Government of India introduced (2005) the *Janani Suraksha Yojana* (JSY) with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among poor pregnant women. The Scheme integrates cash assistance to mothers for delivery and post-delivery care. Under the Scheme, beneficiaries of rural and urban areas were to be provided cash assistance of ₹ 1,400 and ₹ 1,000 respectively to meet the cost of delivery. The assistance was required to be disbursed effectively at the institution itself after delivery.

In the six test-checked DHs, Audit noticed that cash assistance of ₹ 9.89 crore was paid to 76,969 beneficiaries during 2014-19 as detailed in **Table 5.9**.

Table 5.9: Cash assistance paid to beneficiaries during 2014-19

Year	Number of Beneficiaries	Cash Assistance paid to beneficiaries
2014-15	9,043	1,13,91,100
2015-16	14,257	1,88,09,400
2016-17	16,410	2,12,82,700
2017-18	18,488	2,39,04,800
2018-19	18,771	2,35,02,800
Total	**76,969**	**9,88,90,800**

(Source: Test-checked DHs)

Audit scrutinised records related to 362 such beneficiaries for the period 2016-19 in the test-checked DHs and noticed delayed payment or non-payment of cash assistance to the beneficiaries as given in **Table 5.10**.

[65] East Singhbhum, Hazaribag, Palamu, Ramgarh and Ranchi

Table 5.10: Delay/Non-payment of cash assistance to beneficiaries

Year	Total no. of cases test-checked	Delay up to 30 days	Delay between 31-60 days	Delay between 61-180 days	Delay of more than 180 days	Not paid
2016-17	101*	32	18	25	24	1
2017-18	123	5	14	69	31	4
2018-19	138	6	8	79	42	3
Total	**362**	**43**	**40**	**173**	**97**	**8**

**** paid timely in one case***

(Source: Records of test-checked DHs)

It can be seen from **Table 5.10** that 310 beneficiaries were paid cash assistance after one month of delivery including 97 beneficiaries who were paid after more than six months. Further, eight beneficiaries were not paid as of March 2020. Delay/non-payment of cash assistance defeated the objectives of the Scheme.

The Department accepted the facts in respect of DH Deoghar and stated that the delay was due to non-availability of fund under JSY. No replies were furnished in respect of the other test-checked DHs.

5.4.6 Maternal Death and Death Audit

As per IPHS, a Medical Audit Committee shall be constituted in all hospitals for death review of all maternal deaths at the hospital. All maternal deaths should be reported after death review with complete information including cause of death.

Details of institutional deliveries and maternal deaths in the six test-checked DHs are given in **Table 5.11**.

Table 5.11: Cases of Maternal Death in test-checked DHs

Year	No. of institutional deliveries	No. of maternal death	Percentage
2014-15	25,516	32	0.13
2015-16	26,244	46	0.18
2016-17	27,317	36	0.13
2017-18	29,680	38	0.13
2018-19	33,384	24	0.07
Total	**1,42,141**	**176**	**0.12**

(Source: Test-checked DHs and HMIS)

It can be seen from **Table 5.11** that 176 maternal deaths occurred during 2014-19. These deaths occurred in four[66] out of six test-checked DHs. However, Medical Audit Committees were not constituted in these DHs to review the cause of maternal deaths. As a result, authorities remained unaware of the causes of maternal deaths based on which remedial action to reduce such events could have been taken.

The Department did not furnish replies in respect of three DHs (Deoghar,

[66] Deoghar-56, Hazaribag-48, Palamu-71 and Ranchi-01.

Hazaribag and Ranchi). Though it was stated that Medical Audit Committee was constituted in DH Palamu, no supporting documents or findings of the Committee was furnished to Audit.

5.5 Pregnancy outcomes

With a view to gauge the quality of maternity care provided by the hospitals, Audit test-checked the pregnancy outcomes in terms of live births and stillbirths pertaining to the period 2014-19. Findings in this regard are discussed below.

5.5.1 Stillbirths

Stillbirth rate is a key indicator of the quality of care during pregnancy and childbirth. Stillbirth or intrauterine foetal death is an un-favourable pregnancy outcome and is defined as complete expulsion or extraction of the baby from its mother with no signs of life. As per Health and Family Welfare Statistics in India, 2019-20 published by Ministry of Health and Family Welfare, GoI, as against the average national rate of 4 and 5 for the year 2015 and 2017 respectively, the average stillbirth rate of Jharkhand was one per 1000 pregnancy outcomes.

Audit observed that stillbirth rate was between 1.08 and 3.89 *per cent* in the six test-checked DHs during 2014-19 as given in **Table 5.12**.

Table 5.12: Stillbirths during 2014-19

Name of DH	Total number of deliveries	Total number of live births	Stillbirths	Percentage of Stillbirths
Deoghar	29,274	28,535	736	2.52
East Singhbhum	6,119	6,019	101	1.65
Hazaribag	36,488	35942	762	2.09
Palamu	29,312	28,800	1,144	3.89
Ramgarh	13,643	9,328	117	1.24
Ranchi	27,305	25,467	279	1.08

(Source: Test-checked DHs and HMIS)

It can be seen from **Table 5.12** that stillbirth rates were very high and ranged between 2.09 and 3.89 *per cent* in three DHs (Palamu, Deoghar and Hazaribag) during 2014-19 which was more than double the State average of one *per cent*. Reasons for stillbirths were stated to be eclampsia, wrapping of umbilical cord around the baby's neck, respiratory arrest etc.

The Department while accepting the facts in respect of DH, Palamu stated that due to lack of awareness and illiteracy, patients often seek medical intervention when it is too late. No replies were furnished in respect of three DHs (East Singhbhum, Ramgarh and Ranchi). In case of DHs, Deoghar and Hazaribag, it was stated that efforts would be made to decrease the rate of stillbirth in future. The reply in case of DH, Palamu is not acceptable as JSSK and other similar interventions were to be made available at the

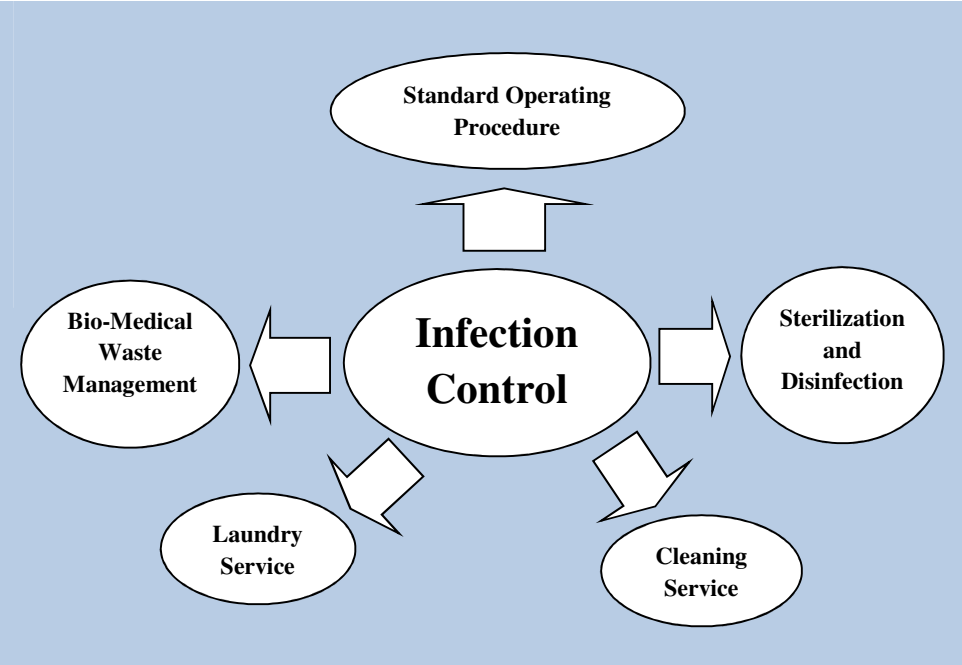
village level for facilitating maternal services and safe deliveries in such cases.

To sum up, *several deficiencies were observed in management of pregnancy, child birth and post-partum care. Provision of intra-partum care also suffered due to lack of vital drugs and equipment. Management of complications during delivery in test-checked DHs was not ensured as partographs were not prepared. Majority of the still births were attributed to reasons that could have been addressed. In respect of post-natal care, inadequate documentation of the processes impaired the ability of the DHs to monitor the health of mothers and new-borns.*

Chapter 6 *Infection Control*

Infection control practices are important in maintaining a safe environment for both patients and staff in the hospitals by reducing the risk of potential spread of hospital associated infections. This chapter discusses audit findings in respect of various aspects of infection control, as shown in **Chart 6.1**.

Chart 6.1: Infection Control Mechanism.



6.1 Standard Operating Procedures

To prevent hospital acquired infections in patients, visitors and staff, NHM Assessor's Guidebooks for DHs recommends framing up of an infection control programme and procedures to be put in place for prevention and measurement of hospital associated infections. It requires cleaning and disinfection of patient's care areas by maintaining a checklist for hygiene and infection control in each hospital. Further, to promote cleanliness, hygiene and infection control practices in public health care facilities, a Hospital Infection Control Committee (HICC) needs to be formed in each hospital as envisaged under "*Kayakalp*", a programme launched (May 2015) by GoI.

Audit observed that the Department directed (September 2015) all Civil Surgeons to constitute District Infection Control Committee (DICC) similar to HICC for framing policies for infection control and monitoring its

implementation. DICC was constituted (September 2015) in all the six test-checked DHs. Further, the State Quality Assurance Committee (SQAC) prepared standard operating procedures (SOPs) for infection control related to various services[67] and sent (June 2016) it to all Civil Surgeons (CSs) cum Chief Medical Officers (CMOs) with the direction to modify the SOPs as per the needs of the districts with changes, if any, to be reported to SQAC. However, out of the six test-checked DHs, only two DHs (Ranchi and East Singhbhum) prepared SOPs for cleaning, laundry, bio-medical waste, sterilisation and disinfection in February 2016 and August 2018 respectively. The remaining four DHs neither prepared their own SOPs nor adopt SOPs prepared by SQAC as of March 2020 for reasons not available on record. In the absence of SOPs, cleanliness and infection control activities were being carried out in an ad-hoc manner in the four DHs.

The Department accepted the facts in respect of DH, Hazaribag. No replies were furnished in respect of DHs, Deoghar, Palamu and Ramgarh.

Further, DICC was to meet at least once a month to review the infection control activities carried out in the hospital. However, against the required 41 meetings, only three meetings each in two DHs (Deoghar and Ramgarh) and seven meetings in DH, East Singhbhum were held between September 2015 and January 2019 in which issues[68] relating to infection control were discussed. DICCs of three DHs (Hazaribag, Palamu and Ranchi) did not meet even once during 2014-19.

Thus, in the absence of SOPs or monitoring of infection control activities by DICCs, audit could not derive an assurance that prescribed processes of hygiene and infection control were followed in the test-checked DHs during 2014-19.

The Department accepted (January 2021) the facts in respect of DH, Palamu. No replies were furnished in respect of the remaining DHs.

6.2 Pest and rodent control

As per NHM Assessor's Guidebook, controlling spread of infection through rodents and pests in the hospital is an important component of infection control practices.

Audit observed that pest and rodent control work was not carried out by three (Deoghar, Hazaribag and Palamu) out of the six test-checked DHs during 2014-19. Two DHs (East Singhbhum and Ranchi) started pest and rodent control work in 2016 whereas DH, Ramgarh started it from 2018.

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[67] Accident & Emergency, Blood Bank, IPD, Laboratory, Labour room, Maternity, OT, OPD, Pharmacy & Stores, Radiology, SNCU, General Administration and Mortuary.

[68] Providing personal protection equipment kit to cleaning staff, following up of provisions of Bio Medical Waste (BMW), fumigation OT/ ICU/ labour room on regular basis and ensure culture test etc.

Thus, the standardisation of pest and rodent control for minimising hospital acquired infections was not ensured by three test-checked DHs during 2014-19.

The Department accepted (January 2021) the fact in respect of DH, Palamu and stated that pest and rodent control work had now been started. No replies were furnished in respect of the remaining two DHs.

6.3 Disinfection and sterilisation

As per Hospital Infection Control Guidelines of the Indian Council of Medical Research (ICMR), disinfection and sterilisation helps in preventing the build-up of bacteria/ viruses etc., on medical tools, linen and consumables and reduce the chances of spread of infection in patients and staff of hospitals. Further, NHM Assessor's Guidebook recommends boiling, autoclaving, high level disinfection (HLD) and chemical sterilisation for disinfection in DHs. Guidelines of "*Kayakalp Initiative*" also prescribes that critical instruments[69] and equipment (surgical, eye and dental equipment etc.) should undergo sterilisation before and after use. Semi-critical instruments[70] and equipment (anesthesia equipment etc.) should undergo HLD before use and intermediate level disinfection (ILD) after use.

Methods of disinfection and sterilisation carried out in the test-checked DHs as on March 2019 is shown in **Table 6.1**.

Table 6.1: Availability of disinfection and sterilisation procedures

Name of DH	Boiling	Chemical sterilisation	Autoclaving	High level disinfection (HLD)
Deoghar	Yes	Yes	Yes	Yes
East Singhbhum	Yes	Yes	Yes	No
Hazaribag	Yes	Yes	Yes	Yes
Palamu	Yes	Yes	Yes	No
Ramgarh	Yes	Yes	Yes	No
Ranchi	Yes	Yes	Yes	Yes

It can be seen from **Table 6.1** that HLD system, a process of complete elimination of all micro-organisms in or on a device with the exception of small numbers of bacterial spores, was not available in three DHs though mandatorily required for disinfection of specific instruments and equipment.

6.3.1 Maintenance of autoclave machine

As per IPHS norms, there should be an Annual Maintenance Contract

[69] Equipment/ devices that enter sterile tissues including the vascular system.
[70] Equipment/ devices that comes in contact with non-intact skin or mucous membrane but do not penetrate them.

(AMC) for all equipment which need special care and preventive maintenance to avoid breakdown and reduce downtime.

The Department executed an agreement (June 2017) with M/s Medicity for AMC of equipment at all levels of health facilities in the State. Prior to that period, maintenance of equipment was being done at the hospital level.

It was observed that records relating to AMCs done prior to June 2017 were not maintained by all the six test-checked DHs and hence audit could not derive an assurance regarding regular maintenance of autoclave machines prior to June 2017. After June 2017, the outsourced agency was carrying out regular maintenance of autoclave machines in the test-checked DHs.

The Department accepted (January 2021) the facts in respect of DH, Palamu. No replies were furnished in respect of the other DHs.

6.3.2 Validation of autoclaving process

NHM Assessor's Guidebook requires that biological and chemical indicators should be used in all hospitals for regular validation of sterilisation of instruments and equipment after autoclaving to prevent hospital associated infections. The same system has also been included in the "*Kayakalp Initiative*" guidelines prescribed by Ministry of Health and Family Welfare, GoI.

Audit observed that the prescribed indicators were not used in five out of six test-checked DHs except Ranchi. DH, Ranchi used only biological indicators from 2018-19. Reasons for not using the prescribed indicators in the test-checked DHs were not available on record. Thus, effective prevention of hospital associated infections was not ensured.

The Department accepted (January 2021) the facts in respect of DH, Palamu. No replies were furnished in respect of the other four DHs (Deoghar, East Singhbhum, Hazaribag and Ramgarh).

6.3.3 Records of sterilisation using autoclave

Audit observed that DH, Ranchi was maintaining records of sterilisation using autoclave for the period 2016-19. However, records of sterilisation using autoclave were not available in the remaining five test-checked DHs for 2014-19.

The Department accepted (January 2021) the facts in respect of DHs, Hazaribag and Palamu. No replies were furnished in respect of the other three DHs (Deoghar, East Singhbhum and Ramgarh).

6.4 Cleaning services

6.4.1 Standard operating procedure for housekeeping

As per IPHS, to provide a clean environment to patients, visitors and staff,

hospitals were required to develop and implement an SOP for housekeeping activities.

Audit observed that SOP, framed in August 2018, for housekeeping was available only in one (East Singhbhum) out of the six test-checked DHs. The SOP lays down that the DH should follow daily cleaning, periodic cleaning, trash and garbage removal, proper hospital waste disposal, discharge cleaning, exterminating bugs and pests, preventing spread of infection, safety and security of the hospital, creating healing environment, gardening and interior decoration etc. However, despite availability of SOP, 33 *per cent* of patients of DH, East Singhbhum were not satisfied with the cleanliness of the hospital premises as seen from the patient satisfaction survey conducted by *Mera Aspataal* during 2018-19.

Audit further observed that the cleaning staff were outsourced by the six test-checked DHs and agreements were executed with the Agencies between May 2014 and February 2019. However, procedures of cleaning were not detailed in the agreements except agreement executed by DH, East Singhbhum and was being done in ad-hoc manner in the other five test-checked DHs. As a result, Audit could not derive an assurance regarding quality of cleanliness maintained by these DHs.

The Department accepted (January 2021) the facts in respect of DH, Palamu and stated that the SOP was now available. No replies were furnished in respect of the other three DHs (Deoghar, Hazaribag and Ramgarh).

6.4.2 Hygiene practices

NHM Assessor's Guidebook prescribes that the hospital must have a system to take air and surface samples for microbiological survey to check for infections.

Audit noticed that four[71] out of the six test-checked DHs did not prepare the report of microbiological survey even in critical care areas like OT, Pediatric ward etc., during 2014-19. Two DHs (Ramgarh and Ranchi) also did this only in 2018-19. It was further seen that though DICCs decided to conduct surface swab tests[72] in two DHs (East Singhbhum and Deoghar) in March and November 2018 respectively, swab tests were not done by these DHs. Thus, Audit could not derive an assurance regarding effective implementation of hygiene practices in the test-checked DHs.

The Department accepted (January 2021) the facts in respect of DHs, Hazaribag and Palamu. No replies were furnished in respect of DHs, Deoghar and East Singhbhum.

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71 Deoghar, East Singhbhum, Hazaribag and Palamu.

72 The OT Swab culture test is done to check for and identify aerobic bacteria on different equipment and surfaces in an operation theatre.

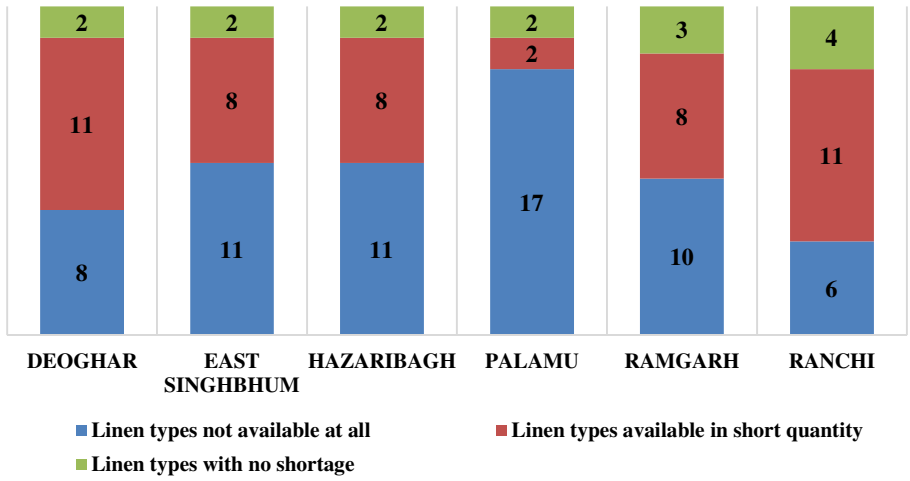
6.5 Laundry services

6.5.1 Availability of linen

IPHS norms prescribes 21 types of linen for patient care services in accordance with the bed capacity of a DH. Further, as per Operational Guidelines for Quality Assurance in Public Health Facilities 2013, the DHs should establish standard procedures for handling, collection, transportation and washing of linen.

Audit observed shortage of different types of linen such as bedspreads, hospital worker OT coats, pediatric mattresses, table cloths etc., in the six test-checked DHs during 2018-19 as shown in **Chart 6.2**.

Chart 6.2: Shortage of Types of linen items during 2018-19



It can be seen from **Chart 6.2** that only two to four types of linen comprising mainly of bed sheets and blankets were sufficiently available in the test-checked DHs. There was shortage of two to 11 types of linen that included table cloths, OT coats, overcoats etc., whereas six to 17 types of linen comprising of bedspreads, draw sheets, overshoes pair etc., were not available at all. DHs-wise details of items not available is shown in **Table 6.2** with details of shortage in ***Appendix 6.1***.

Table 6.2: Linen not available at all in test-checked DHs

Name of DH	Linen items
Deoghar	Bedspreads, Draw sheets, Patient's house coats (for female), Over shoes pairs, Perineal sheets for OT, Leggings, Mortuary sheets and Mats (Nylon).
East Singhbhum	Bedspreads, Patna towels, Table cloths, Overcoats, OT coats, Patient's *Pyjamas*/Shirts (for male), Over shoes pairs, Abdominal sheets for OT, Perineal sheets for OT, Mortuary sheets and Mats (Nylon)
Hazaribag	Bedspreads, Draw sheets, Overcoats, Patient's house coats (for female), Over shoes pairs, Pediatric Mattresses, Abdominal sheets for OT, Perineal sheets for OT, Leggings (in pairs), Mortuary sheets and Mats (Nylon).
Palamu	Bedspreads, Patna towels, Table cloths, Draw sheets, Overcoats, OT coats, Patient's house coats (for female), Patient's *Pyjamas*/ Shirts (for male),

Name of DH	Linen items
	Over shoes pairs, Mattresses (foam) Adult, Pediatric Mattresses, Abdominal sheets for OT, Perineal sheets for OT, Leggings, Mortuary sheet, Mats (Nylon) and Mackintosh sheets.
Ramgarh	Bedspreads, Table cloths, Patient's *Pyjamas*/ Shirts (for male), Over shoes pairs, Mattresses (foam) Adult, Pediatric Mattresses, Perineal sheets for OT, Leggings, Mortuary sheets and Mats (Nylon).
Ranchi	Bedspreads, Table cloths, OT coats, Over shoes pairs, Leggings and Mortuary sheets.

(Source: Details furnished by DHs)

The Department accepted (January 2021) the facts in respect of DHs, Deoghar and Palamu. No replies were furnished in respect of the remaining four DHs.

6.5.2 Other deficiencies in linen

Audit observed that:

- Bed sheets were available in excess of requirement by 14 to 412 *per cent* in four[73] DHs and short of requirement by 13 to 43 *per cent* in two DHs[74]. Blankets were also in excess of requirement by 46 to 446 *per cent* in all the six test-checked DHs (***Appendix 6.2***). Procurement in excess of requirement resulted in stacking of these items in almirahs and on the floor of the store in DH, Ramgarh as can be seen from the photographs below.

Photographs (03 March 2020) showing blankets stacked in almirahs and store room floor at DH Ramgarh

- Physical verification of linen was not carried out by any of the test-checked DHs during 2014-19. Records relating to pilferage/ loss of linen were also not maintained by the test-checked DHs.

- Two DHs (Deoghar and East Singhbhum) prepared and adopted policy for condemnation of linen in August 2016 and August 2018 respectively but no action for condemnation of linen was initiated as of March 2020. The remaining four test-checked DHs neither prepared any policy for condemnation nor condemned linen during 2014-19.

[73] Deoghar, Hazaribag, Palamu and Ranchi.
[74] East Singhbhum and Ramgarh

The Department accepted (January 2021) the facts in respect of DH, Palamu and stated that policy was being made for condemnation of linen. However, no response had been received regarding physical verification of linen or it pilferage.

➢ In DH Deoghar, bed sheets were available in excess of requirement by 412 *per cent* as per IPHS norms whereas in DH Ramgarh it was short by 43 *per cent* of the actual requirement. Patients in the maternity ward of these DHs were found on beds without bed sheets during joint physical verification.

6.5.3 Deficiencies in laundry services

As per IPHS norms, hospitals were required to provide clean and hygienic linen to patients for preventing infection among patients and hospital staff. The Operational Guidelines for Quality Assurance in Public Health Facilities, 2013 prescribes that the facility should have adequate sets of linen, established procedures for changing of linen in patient care areas and standard operating procedures for handling, collection, transportation and washing of linen.

Audit scrutiny of records related to linen services in the six test-checked DHs revealed the following deficiencies:

➢ Standard Operating Procedure (SOP) for handling, collection, transportation and washing of linen was not prepared by five out of the six test-checked DHs during 2014-19. DH, East Singhbhum had prepared the SOP only in August 2018. In the absence of SOP, quality assurance for handling of linen could not be ascertained in audit.

➢ Washing of linen was not done through mechanised laundry in the premises of test-checked DHs during 2014-19 as desired under guidelines of "*Kayakalp*". Instead, washermen, who collected soiled linen from wards and returned it directly to the wards, were engaged[75] by the six test-checked DH as centralised linen stores was not available. Audit could not ascertain whether the patients were provided hygienic and clean bed linen in these hospitals as no mechanism existed for inspection of washing of linen.

➢ As per guidelines of "*Kayakalp*", soiled linen should be segregated into dirty and infected linen which were required to be transported in covered trolleys to the laundry. Infected linen should be soaked in 0.5 *per cent* bleaching solution for 30 minutes and should be handed over for washing only after thorough rinsing and removal of bleach with plain water.

[75] Two DHs Deoghar and Hazaribag, engaged outsourced personnel to whom washing powder/detergent was supplied by DHs. In remaining four DHs, agreements were executed with outsourced personnel with all material.

Audit noticed absence of segregation of dirty and infected linen and as such lack of pre-treatment of infected linen. Absence of covered trolleys to carry dirty linen from wards was also noticed. Further, there were no almirahs or covered racks in wards in the test-checked DHs to keep the washed linen safely.

- Monitoring of cleanliness of linen was not done after receiving washed linen and thus the cleanliness and disinfection of linen were not ensured.

The Department did not furnish replies to the audit observations.

6.6 Bio-medical waste management

Bio-medical waste (BMW) is generated during procedures related to diagnosis, treatment and immunisation in the hospitals and its management is an integral part of infection control within the hospital premises. The GoI framed Bio Medical Waste (Management and Handling) Rules, 1998 under the Environment (Protection) Act, 1986, which were superseded by Bio Medical Waste (BMW) Management Rules, 2016. BMW Rules inter alia lays down the procedures for collection, handling, transportation, disposal and monitoring of bio-medical waste with clear roles for waste generators and Common Bio-Medical Waste Treatment Facility (CBMWTF).

6.6.1 Authorisation for bio-medical waste

The BMW Rules requires hospitals generating bio-medical waste to obtain authorisation from the State Pollution Control Board (SPCB) for the generation, collection, reception, storage, transportation, treatment, processing, disposal or any other form of handling of bio-medical waste. The category-wise quantity of bio-medical waste generated and disposal report were to be forwarded to SPCB in a prescribed format annually.

Scrutiny of records revealed that the six test-checked DHs did not obtain requisite authorisation from SPCB during 2014-19. Four DHs (Deoghar, East Singhbhum, Ramgarh and Ranchi) obtained authorisation from SPCB between July 2019 and February 2020. The remaining two DHs (Hazaribag and Palamu) had applied (July and August 2019) for authorisation to SPCB but authorisation was awaited as of March 2020.

Thus, the test-checked DHs were handling bio-medical waste without proper authorisation and proper monitoring of bio-medical waste disposal was not ensured.

The Department accepted the facts in respect of DH Palamu. No replies were furnished in respect of DH, Hazaribag.

6.6.2 Segregation of bio-medical waste

The BMW Rules require hospitals to segregate different categories of bio-medical waste in bins of different colours at the point of generation and

collection by the CBMWTF in respective colour coded bags. In respect of liquid chemical waste generated in health care facilities, BMW Rules mandates segregation of such waste at source and its pre-treatment or neutralisation through Effluent Treatment Plant (ETP) prior to mixing it with liquid waste generated by health care facilities as required under Guidelines for Management of Healthcare Waste under BMW Rules, 2016.

Audit observed that solid bio-medical waste was segregated as required in all the six test-checked DHs. However, liquid chemical waste was neither segregated nor treated separately in the test-checked DHs before discharging them into drains. ETP was also not found established for pre-treatment of liquid chemical waste in five test-checked DHs except in DH, Ranchi (from 2018-19). As a result, liquid waste[76] was being directly discharged into the drainage system in violation of the BMW Rules which is hazardous to public health at large.

The Department accepted (January 2021) the facts in respect of DHs, Hazaribag and Palamu. No replies were furnished in respect of DHs Deoghar, East Singhbhum and Ramgarh.

6.6.3 Collection and disposal of bio-medical waste

As per BMW Rules, CBMWTF is responsible for collection and proper disposal of BMW from DHs. Scrutiny of records revealed the following:

- Audit observed that outsourced operators were engaged for segregation, collection and disposal of BMW in five test-checked DHs except DH, Deoghar. It was further observed that bio-medical waste of two DHs (Ranchi since August 2019 and Palamu since January 2019) were being disposed off at CBMWTF sites situated at Lohardaga[77], of two DHs (Ramgarh since March 2016 and Hazaribag since January 2018) at Ramgarh[78] and one DH (East Singhbhum since June 2015) at Jamshedpur[79]. In DH, Deoghar, BM waste was being disposed off in sharp pits and deep burial pits as CBMWTF site was not situated within a radius of 75 km[80].

- Against the requirement of daily collection as per BMW Rules, it was further observed that bio-medical waste was collected on a daily basis only in DH, Palamu while it was being collected on alternate days in two DHs (Hazaribag and Ramgarh) and two days in a week in one DH (East Singhbhum). Records related to the collection of bio-medical waste was not available at DH, Ranchi though the service was outsourced. Non-collection

[76] Liquid waste generated from laboratory, washing, cleaning, house-keeping and disinfection activities.
[77] M/s Medicare Environmental Management Private Limited, Lohardaga
[78] M/s. Bio-Genetic Lab Private Limited, Waste Disposal Plant, Ramgarh
[79] Tata Main Hospital, Jamshedpur
[80] As per guidelines of CBMWTF, bio-medical waste should be disposed at CBMWTF situated within 75 km of source of generation.

of bio-medical waste on a daily basis was a health hazard to the patients and staff of the concerned DHs.

The Department did not furnish replies to the audit observations.

To sum up, *the test-checked DHs lacked an environment of infection control. The non-availability of SOPs/checklists for hygiene and infection control in DHs was indicative of indifference towards the need for instilling infection control practices. Cleaning and laundry services in the DHs were not of a satisfactory level. The collection of bio-medical waste on a daily basis in DHs was not ensured. Liquid chemical waste generated by the DHs was being directly discharged into the drainage system without being treated.*

Chapter 7 Drug Management

Accessibility, availability and affordability of good quality drugs at minimum out-of-pocket expenditure are key functions of the public health system to protect the public from the rising cost of health care.

Audit observations on various components of drug management-availability of drugs, their storage, dispensation to patients and procurement in the hospitals are discussed in the succeeding paragraphs.

7.1 Drug procurement management process

To ensure the availability and accessibility of safe, effective, good quality essential medicines to the people through an efficient selection, procurement, supply and distribution and storage system at all levels of health care facilities in the State, GoJ promulgated the Jharkhand State Drug Policy (JSDP) in June 2004 containing the procurement procedures of drugs.

As per JSDP, a State level "State Medicines Selection and Procurement Committee (SMSPC)" was made responsible for sound management practices to ensure availability and accessibility of essential medicines through proper selection, efficient procurement, improved distribution, storage and inventory control systems and promotion of rational use. SMSPC was to function with two sub-committees[81] having the mandate to prepare the Essential Drugs List (EDL) and to conclude Rate Contracts (RCs) with the manufacturing firms for uninterrupted supply of drugs at a reasonable cost. CS-cum-CMOs are to issue supply orders on rates approved by the Committee to the contracted firms for supply of drugs as per requirement.

The Department partially modified (August 2015) JSDP and JMHIDPCL[82] was made responsible (in place of SMSPC) for centralised procurement of medicines and equipment on the basis of consolidated indent received from the Directorate. JMHIDPCL was to either procure medicines or to execute Rate Contracts with manufacturers based on which CS-cum-CMOs were to

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81 (i) Medicine Selection Committee responsible for identification and preparation of separate essential medicine list for primary, secondary and tertiary healthcare; and (ii) Medicine Procurement Committee responsible for tendering process, analysing of drug firms and analysing rates for the selected medicines.

82 Jharkhand Medical & Health Infrastructure Development & Procurement Corporation Limited (JMHIDPCL) is a corporation established (April 2013) under company act which is entrusted with the work of procurement and distribution of Medicines, Equipment and Basic Infrastructure for health facilities in Jharkhand.

purchase medicines for the hospitals. Drugs not covered by the Rate Contracts could be procured from firms having Rate Contracts with GoI or other State Governments for supply of drugs. Further, as per JSDP, if Rate Contract is not framed for a drug and procurement is warranted in an emergency situation, the same could be procured from local vendors by CS-cum-CMOs.

Audit observed that the drug procurement process was marred with systemic problems as well as non-adherence to the stipulated procedures viz., expiry of medicines due to delay in testing, non-adherence of quality assurance of drugs, non-availability of Essential Drugs etc., as discussed in the succeeding paragraphs.

7.1.1 Utilisation of funds for drug procurement

For procurement of drugs for all healthcare facilities including DHs, JMHIDPCL received State funds amounting to ₹ 100.31[83] crore during 2014-16 and NHM funds amounting to ₹ 51.43[84] crore during 2016-19. Additionally, the Department also released State funds to CS-cum-CMOs under the Head 2210, a part of which was utilised for procurement of drugs.

Audit observed that:

- JMHIDPCL spent only ₹ 12.46 crore out of ₹ 100.31 crore from the State funds during 2016-18 and refunded (June 2020) the balance amount of ₹ 87.85 crore (88 *per cent*) to the Department. Further, only ₹ 40.54 crore (79 per cent) was spent from NHM funds during 2016-19 and the balance of ₹ 12.24[85] crore including interest was lying in the bank account of JMHIDPCL.

- The Directorate provided indents of 213 drugs during 2015-16 and 2016-17 and 354 drugs during 2018-19 required for primary and secondary health care facilities to JMHIDPCL. However, JMHIDPCL finalised the Rate Contract for only 47 drugs/medicines in November 2016 and for 48 medicines in September 2017 which was stated to be due to non-participation of firms for all the tendered medicines and single tenders for some medicines despite re-tenders. As a result, JMHIDPCL could procure drugs worth only ₹ 12.46 crore from the State funds during 2016-18.

- An allotment of ₹ 10.62 crore was released to test-checked DHs by the Department for purchase of medicines during 2014-19. Out of this, expenditure of ₹ 10.35 crore was incurred on the procurement of medicines from the local vendors.

Thus, inadequate procurement and supply of medicines by JMHIDPCL compelled the CS-cum-CMOs to resort to purchase of medicines from the

[83] 2014-15: ₹ 60.31 crore and 2015-16: ₹ 40.00 crore
[84] 2016-17: ₹ 1.85 crore, 2017-18: ₹ 21.55 crore and 2018-19: ₹ 28.03 crore
[85] Unspent balance included interest of ₹ 1.34 crore.

local vendors in the test-checked DHs during the said period.

The Department did not furnish replies to the audit observations.

7.1.2 Expiry of medicines due to delay in testing

As per the terms and conditions of the contract[86], the vendor supplies medicines with a quality certificate. Further, JMHIDPCL draws samples from the supplied medicines for quality testing through empanelled laboratories and after getting satisfactory results supply is deemed to be completed. The samples which do not meet quality standards render the relevant batches liable to be rejected.

Audit noticed that purchase order for supply of 24.71 lakh tablets of Amoxicillin with Potassium Clavulanate 625 mg valuing ₹ 1.11 crore was issued (March 2017) to a vendor. The vendor supplied (June 2017) 24.47 lakh tablets in five batches, bearing manufacturing date of May 2017 and expiry date of October 2018 along with the quality certificates.

As per the provision of the contract, JMHIDPCL got the sample tested from an empanelled laboratory[87] which found (27 July 2017) all the batches "not of standard quality". JMHIDPCL, however, intimated (11 September 2017) the un-satisfactory test results to the vendor after a delay of 45 days. The vendor contested (September 2017) the test report and the samples of all five batches were sent (December 2017) to the Central Drug Laboratory (CDL), Kolkata for re-testing by JMHIDPCL again with a delay of three months. CDL, Kolkata declared (July 2018) all the five batches "standard quality". Ultimately, only 6.08 lakh tablets with shelf life of remaining three months was issued to the districts and balance 18.39 lakh tablets valued at ₹ 82.40 lakh expired in October 2018 and was lying in the warehouse (June 2020).

Thus, inordinate delay by JMHIDPCL in meeting the quality test formalities led to expiry of medicines worth ₹ 82.40 lakh.

The Department did not furnish replies to the audit observations.

7.2 Quality assurance of drugs

Quality control plays a major role in providing high quality drugs to the patients. As per JSDP 2004, the State is to ensure quality control of medicines through testing at Government and private laboratories. Further, good manufacturing practices (GMP[88]) should be promoted and inspections of the manufacturing units should be conducted at the cost of suppliers. Besides, quality of drugs should also be checked through sampling by the

[86] Entered into between JMHIDPCL and M/s. Scott Edil Pharmacia Limited (the vendor).
[87] Multani Pharmaceuticals Limited (Analytical Division), Haridwar, Uttarakhand.
[88] GMP are the practices that provide minimum requirements that a manufacturer must meet to assure that their products are consistently high in quality, from batch to batch, for their intended use.

Drug Controller (DC). Audit observed that:

➢ The JMHIDPCL had executed (October 2017) an agreement with a vendor[89] for supply of 13 medicines within 60 days from the date of purchase order. According to the provisions of the agreement (Clause 6.01), the supplier was required to submit test reports from the laboratories for each batch of the drug before supply to obtain dispatch clearance of drugs at the specified locations. Further, after receipt of the supply, samples of drugs from each batch might be taken for testing/ analysis by JMHIDPCL.

Audit noticed that JMHIDPCL issued (October 2017) purchase order to the vendor for supply of 2.06 lakh vials of injection of Cefotaxime Sodium (1000 mg) at district warehouses. However, the vendor without getting dispatch clearance from JMHIDPCL, supplied (between January and March 2018) 2.02 lakh vials of injections of three batches (CO43705, CO43706 and CO43707) at 22 districts. As such, the vendor did not ensure supply of quality drugs by submitting quality test reports. Subsequently, JMHIDPCL also did not ensure quality test of supplied the injections though supply was not supported by quality test reports and paid (August 2018) ₹ 58.45 lakh to the vendor in contravention to the contractual provision stated ibid.

➢ Audit further noticed that in the absence of centralised purchase of medicines by JMHIDPCL, test-checked DHs procured medicines from local vendors which were not found supported with quality test reports and thus mechanism of quality testing before supply of drugs was compromised.

The Department accepted (January 2021) the facts in respect of DH, Hazaribag and stated that necessary quality assurance would be obtained from the empaneled laboratories from time to time. No replies were furnished in respect of other test-checked DHs.

➢ Audit noticed delays in submitting test reports of samples collected by the Drug Inspectors (DI) out of medicines available with test-checked DHs during 2014-19 as depicted in **Table 7.1**.

Table 7.1: Details of samples collected and reported by DI

Name of DH	Number of samples collected	Number of test reports received	Number of test reports pending
Deoghar	9	8	1
East Singhbhum	2	0	2
Hazaribag	10	7	3
Palamu	Records not available		
Ramgarh	18	11	7
Ranchi	30	22	8
Total	**69**	**48**	**21**

(Source: Test-checked DHs)

[89] M/s. Bengal Chemicals and Pharmaceuticals Limited, Kolkata (Public Sector Undertaking of the Government of India)

From **Table 7.1**, it can be seen that test reports of 21 samples collected between July 2014 and February 2019 were awaited as of March 2020.

- CS-cum-CMO issued (between 25 July 2018 and 23 January 2019) 17,500 vials of Dexamethasone Sodium Phosphate (Dexona) 2 ml injections to DH, Deoghar. The Drug Inspector, Deoghar collected (30 July 2018) samples of the injection of the same batch from the store of CS-cum-CMO which were found (8 March 2019) spurious by the Regional Drug Testing Laboratory, Guwahati. The samples were re-tested by CDL, Kolkata on the orders of the Civil Court, Deoghar and were again found (11 September 2019) 'not of standard quality'.

However, it was noticed that 4,185 out of 17,500 vials of injections were issued (28 July 2018 to 12 March 2019) to different wards from the store of DH, Deoghar and were administered to patients till March 2019. Audit further noticed that 309 vials were administered (between 12 March and 31 March 2019) even after the injection was detected as spurious by the Regional Drug Testing Laboratory, Guwahati as intimated (12 March 2019) by the Drug Inspector, Deoghar. The injection was further declared 'Sub-standard' by the Central Drug Laboratory, Kolkata on 11 September 2019.

The Department did not furnish replies to the audit observations.

- In DH, Ramgarh, Acyclovir 200 mg tablet (Batch T-15818), supplied (31 August 2018) through JMHIDPCL, was reported (15 March 2019) as 'not of standard quality' by the State Drug Testing Laboratory, Jharkhand. However, 140 out of supplied 5,000 tablets of the same batch were distributed (between 23 November 2018 and 27 March 2019) to OPD patients and remaining 4,860 tablets were lying in store as of February 2020.

The Department did not furnish replies to the audit observation.

- In DH, Ramgarh, 410 doses of hepatitis-B vaccines with shelf life up to October 2018 were administered to children between November 2018 and January 2019.

In reply, the Deputy Superintendent, DH, Ramgarh stated that wrong expiry date was recorded by mistake in the vaccine stock register. The reply is not acceptable as the same expiry date (October 2018) of the vaccine with the same batch number was also found recorded in the stock register of DH, East Singhbhum.

The Department did not furnish replies to the audit observation.

Thus, quality of medicines were not ensured during procurement as required and instances of spurious or expired medicines being administered to patients were noticed.

7.3 Availability of Essential Drugs

Audit observed that the EDL as prepared by the Directorate in February 2017 contained 367 drugs. Audit compared the availability of drugs in the test-checked DHs with the EDL during 2017-19 as detailed in **Table 7.2**.

Table 7.2: Availability of drugs against EDLs

Sl. No.	Name of DH	2017-18			2018-19		
		Number of drugs in EDL	Number of drugs available	Percentage of availability	Number of drugs in EDL	Number of drugs available	Percentage of availability
1	Deoghar	367	85	23	367	86	23
2	East Singhbhum	367	79	22	367	52	14
3	Hazaribag	367	42	11	367	41	11
4	Palamu	367	45	12	367	51	14
5	Ramgarh	367	52	14	367	56	15
6	Ranchi	367	69	19	367	70	20

(Source: Test-checked DHs)

It can be seen from **Table 7.2** that only 11 to 23 *per cent* of essential drugs were available with the test-checked DHs during 2017-19. Further, the available drugs was out of stock for a considerable period due to less procurement of drugs as compared to the requirement by CS cum CMOs as illustrated in **Table 7.3**.

Table 7.3: Stock out of drugs

Year	Name of DHs	Number of medicines available	Number of medicines test-checked by Audit	Total number of out of stock medicine	Stock out position (in days)			
					1-30	31-60	61-120	more than 120
2017-18	Deoghar	85	74	49	4	11	7	27
	East Singhbhum	79	37	37	1	11	8	17
	Hazaribag	42	42	21	1	3	7	10
	Palamu	45	45	21	0	0	0	21
	Ranchi	69	22	22	0	1	0	21
2018-19	Deoghar	86	72	52	16	8	15	13
	East Singhbhum	52	32	32	8	3	5	16
	Hazaribag	41	41	18	0	2	4	12
	Palamu	51	45	21	0	2	2	17
	Ranchi	70	31	28	0	2	0	26
	Total	**620**	**441**	**301**	**30**	**43**	**48**	**180**

(Source: Test-checked DHs)

It can be seen from **Table 7.3**, that out of the test-checked 441 essential drugs, 180 drugs (41 *per cent*) remained out of stock for more than 120 days during 2017-19 in five test-checked DHs. In DH, Ramgarh, Audit could not assess availability of essential drugs as the central stock register was not maintained.

Thus, either due to non-procurement of 77 to 89 *per cent* of essential drugs (Table 7.2) or less procurement of 11 to 23 *per cent* of drugs which also included vital drugs required for OT, ICU, Emergency and Maternity services, objective of efficient and affordable health services to needy was not ensured as discussed in **Chapters 4 and 5**.

The Department did not furnish replies to the audit observations.

7.4 Storage of drugs

Jharkhand State Drug Policy, 2004 prescribes that an appropriate system of storage and stock management for medicine is to be established for adequate stocking of drugs. Further, the Drugs and Cosmetic Rules, 1945 stipulates parameters for the storage of drugs in stores to maintain the efficacy of the procured drugs before being issued to patients.

Audit noticed non-adherence to the prescribed norms and parameters (***Appendix 7.1***) by the test-checked DHs as given in **Table 7.4**.

Table 7.4: Deficiencies in storage of drugs

Sl. No.	Parameters	Number of test-checked DHs having deficiencies	Probable impact of not adhering to parameters
1	Air-conditioned pharmacy	5	Loss of efficacy and shelf life of drugs
2	Labelled shelves/racks	2	High Turn Over time in the disbursement of drugs
3	Away from water and heat	3	Loss of efficacy and shelf life of drugs
4	Display instructions for storage of vaccines	3	
5	Functional temperature monitoring device in freezers	1*	
6	Drugs kept under lock and key	3	Misuse of costly drugs
7	Poisons kept in a locked cupboard	4**	Unauthorised access to the dangerous drugs

***** Information not furnished by DH, Hazaribag

** Information not furnished by DH, East Singhbhum

(Source: Test-checked DHs)

It is evident from **Table 7.4** that test-checked DHs were not adhering to norms in storage of drugs which were directly linked with loss of efficacy and shelf life of drugs. Prescribed safety norms were also not followed for storage of dangerous drugs. Thus, storage management of the drugs was deficient due to which reduction in efficacy of drugs cannot be ruled out.

The Department accepted the facts in respect of DH Palamu and stated that steps would be taken for proper storage of the drugs. No replies were furnished in respect of the other DHs.

To sum up, *drug procurement process was riddled with systemic flaws and instances of non-adherence to the Drug Procurement Policy which consequently impacted the availability of quality drugs. Essential drugs were not available with the test-checked DHs.*

Chapter 8 Building Infrastructure

To deliver quality health services in the public health facilities, adequate and properly maintained building infrastructure is of critical importance. Examination of records in the Performance Audit disclosed inadequacies and deficiencies in the availability and construction of hospital building infrastructure, as discussed in the succeeding paragraphs.

8.1 Grading of District Hospitals

As per IPHS, the size of a DH is determined by its bed requirement and the bed requirement of a hospital is assessed on the basis of the population of the district. Based on the assumptions of the annual rate of admission as 1 per 50 population and average length of stay in a hospital as 5 days, the number of beds required in test-checked DHs are shown in **Table 8.1**.

Table 8.1: Details of sanctioned and required bed in DHs

Name of District	2014-15				2018-19			
	Projected population in 2014-15	No. of beds sanctioned	No. of beds required*	Shortage of beds (*per cent*)	Projected population in 2018-19	No. of beds sanctioned	No. of beds required*	Shortage of beds (*per cent*)
Deoghar	16,20,738	100	444	344 (77)	18,60,709	100	510	410 (80)
East Singhbhum	23,99,225	100	657	557 (85)	25,91,019	100	710	610 (86)
Hazaribag	18,71,709	200	513	313 (61)	21,25,944	250	582	332 (57)
Palamu	20,90,701	100	573	473(83)	23,75,840	200	651	451 (69)
Ramgarh	9,86,952	100	270	170 (63)	10,53,313	100	289	189 (65)
Ranchi	31,26,760	100	857	757 (88)	35,20,419	200	964	764 (79)
Total		**700**	3,314	2,614 (79)		**950**	3,706	2,756 (83)
Note: [*(Population /50) X 5/365]								

(Source: Census 2011 and test-checked hospitals)

It can be seen from **Table 8.1** that:

- Shortage of required beds in the test-checked DHs ranged between 61 and 88 *per cent* and 57 and 86 *per cent* respectively during 2014-15 and 2018-19.

- There was shortage of 2,614 beds in the test-checked DHs as of March 2015. However, only 250 additional beds were added during 2014-19.

- To cope up with the increasing bed requirement, GoJ planned to upgrade DH, Ranchi to a 500 bedded hospital from the existing 100 bedded hospital and sanctioned (August 2007) construction of a new hospital building. However, due to non-construction of all the blocks of the building, GoJ notified (May 2017) the DH to be operated as a 200 bedded Mother

and Child Health (MCH) Centre in the first phase in the incomplete under construction building. DH, Ranchi was yet to be upgraded to the planned 500 bedded hospital (March 2020).

Thus, the Department did not create adequate number of beds in DHs commensurate with the increase in population to provide access to quality secondary health care services.

The Department did not furnish replies to the audit observation.

8.2 Creation of infrastructure

Jharkhand State Building Construction Corporation Limited (JSBCCL), headed by the Principal Secretary, Building Construction Department as the Chairman, is the designated body for construction of hospital buildings in the State. The Project Implementation Units (PIUs) headed by the Divisional Managers at the district level implement the projects.

8.2.1 Physical and financial achievement of works

During 2014-19, 66 works for construction/up-gradation of hospital buildings including district hospital buildings, 10 bedded burn units, blood bank buildings and district warehouses in the campus of Sadar hospitals were sanctioned at a cost of ₹ 376.13 crore. Besides, six works, sanctioned prior to 2014-15 at a cost of ₹ 175.28 crore were also in progress as of March 2014. Against these 72 works, 58 works (81 *per cent*) with sanctioned cost of ₹ 130.16 crore were completed with expenditure of ₹ 96.03 crore, eight works with sanctioned cost of ₹ 410.40 crore were in progress as of March 2020 after expenditure of ₹ 185.72 crore and six works with sanctioned cost of ₹ 10.85 crore were dropped by the Department mainly due to non-availability of land required for construction. Year-wise progress of works is given in **Table 8.2**.

Table 8.2: Details of projects undertaken during 2014-19

(₹ in crore)

Year	Number of projects	Sanctioned cost	Completed projects		Incomplete projects		Dropped projects
			Number	Exp	Number	Exp	
Prior to 2014-15	6	175.28	5	19.67	1	109.63	Nil
2014-15	35	62.11	31	40.10	Nil		4
2015-16	22	41.11	18	15.65	2	1.04	2
2016-17	2	4.95	2	4.88	Nil	Nil	Nil
2017-18	4	192.44	2	15.73	2	58.69	Nil
2018-19	3	75.52	Nil	Nil	3	16.36	Nil
Total	**72**	**551.41**	**58**	**96.03**	**8**	**185.72**	**6**

(Source: Information furnished by JSBCCL)

Audit further selected 13 works with sanctioned cost of ₹ 257.26 crore (**detailed in Appendix 8.1**) in the six test-checked districts for detailed scrutiny. These works were taken up during 2013-19 and were to be

completed between February 2015 and February 2020. Of these, eight works sanctioned at a cost of ₹ 19.03 crore were completed after incurring an expenditure of ₹ 13.89 crore while three works sanctioned at a cost of ₹ 235.53 crore were in progress with physical achievement ranging between 29 and 68 *per cent* and expenditure of ₹ 70.65 crore. Two works viz., ten bedded burn units at DHs, Hazaribag and Palamu with sanctioned cost of ₹ 2.69 crore were dropped by the Department mainly due to non-availability of land.

8.3 Irregularities noticed in test-checked works

8.3.1 Delay in construction of hospital building

Construction of a 500 bedded hospital building at Sadar Hospital, Ranchi was administratively approved (August 2007) for ₹ 131.14 crore by the Health, Medical Education and Family Welfare Department, GoJ. The Department signed (October 2007) an MoU with M/s National Building Construction Corporation Limited (NBCC) for completion of the work within three years which was later extended upto December 2012.

Meanwhile, GoJ decided (July 2012) to run the hospital (DH, Ranchi) on Public Private Partnership (PPP) mode and nominated (July 2012) International Finance Corporation (IFC) as Transaction Advisor for preparing Bid document and concession agreement. The Department also instructed (May 2013) NBCC to hand over the inventory of the work done so as the building may be transferred to the selected operator on "as is where is" basis to complete the remaining work and to make it operational. NBCC was paid ₹ 137.38 crore for the work done.

The Bid document and the concession agreement prepared by the transaction advisor was approved (January 2014) by the State Government and the tender was floated (March 2014) in which three bidders participated. In the technical evaluation, two bidders were technically qualified but the tender was cancelled (May 2014) on the grounds of getting wider competitive bidding through re-tender. However, in the re-tender, no bidder participated. Subsequently, the State Government resorted to negotiation with reputed hospital groups to run the hospital on PPP mode but the effort also did not fructify.

Later on, GoJ decided (June 2016) to run the hospital by the Department itself instead of running it on PPP mode. A revised administrative approval for ₹ 307.93 crore for the project was accorded (August 2017) by the Department on the basis of technical sanction granted (March 2017) by the General Manager (Project), Jharkhand State Building Construction Corporation Limited (JSBCCL), Ranchi. As per the revised estimate, cost of

the remaining works was ₹ 170.55 crore[90] including cost due to variation in rate (₹ 62.71 crore); variation in quantity (₹ 67.60 crore) and for addition of new items (₹ 40.24 crore).

The remaining work was awarded (November 2017) to a contractor at ₹ 179.21 crore with scheduled date of completion by February 2019. The work was under progress with physical progress at 40 *per cent* and financial progress at ₹ 52.63 crore as of June 2020.

Thus, midway stoppage (July 2013) of the incomplete work and failure in attracting a private partner to operate the hospital on PPP mode after completing the remaining works led to the 500 bedded hospital remaining non-functional even after more than 12 years of commencement of construction.

8.3.2 Non/ short realisation of liquidated damages

As per the provisions of contract in the Standard Bidding Document, the contractor shall pay liquidated damages to the employer (at the rate of 1/2000th of the Initial Contract Price rounded to nearest thousand per day) for each day that the completion date is later than the intended date of completion. The total amount of liquidated damages shall not exceed 10 *per cent* of the Initial Contract Price. The employer shall deduct liquidated damages from payments due to the contractor.

As discussed above, the remaining work of the 500 bedded "Sadar hospital (with wards) at Ranchi" was awarded (November 2017) at ₹ 179.21 crore for completion of the work by February 2019. Though the physical progress of the work was only 40 *per cent* as of June 2020, JSBCCL did neither realise liquidated damages of ₹ 17.90 crore (being maximum of 10 *per cent* of the contract price) for such delay from the contractor's payments (₹ 52.63 crore) nor extend the intended date of completion on request of the contractor that was recommended (August 2019 and June 2020) for extension up to December 2019 and December 2020 respectively by the Manager-cum-Executive Engineer, PIU, Ranchi.

8.3.3 Short realisation of mobilisation advance

As per the provisions of the contract, the employer shall make advance payment of 10 *per cent* of the contract price as mobilisation advance to the contractor, on submission of unconditional bank guarantees, to be drawn before the end of 20 *per cent* of the contract period. The mobilisation advance shall be repaid at the rate of 20 *per cent* of the amount of the interim payment certificates certified by the engineer. Deductions shall commence in the next interim payment certificate following that in which the total of

[90] A) Balance work: ₹ 163.07 crore; B) Labour Cess: ₹ 1.63 crore; C) Electrical connection: ₹ 5.85 crore.

all such payment to the contractor has reached not less than 20 *per cent* of the contract price or six months from the date of payment of first instalment of advance, whichever period concludes earlier provided that the advance shall be completely repaid prior to the expiry of the original time for completion.

Audit observed that mobilisation advance of ₹ 17.90 crore was granted (December 2017) to the contractor against which only ₹ 2.65 crore was recovered up to the original intended date of completion (February 2019) from bills of ₹ 19.72 crore paid till March 2019. Recovery of ₹ 6.58 crore was further made from subsequent bills leaving a balance of ₹ 8.67 crore as of June 2020.

Thus, in contravention to the provisions of the SBD, complete liquidation of the mobilisation advance was not done till original intended date of completion and even later on which resulted in undue financial aid to the contractor.

The Department did not furnish replies to the audit observation.

8.3.4 Incomplete building of DH, Ramgarh

In Ramgarh, a new 100 bedded hospital building was sanctioned (June 2008) by the Department for ₹ 4.89 crore. The work was departmentally executed by the Executive Engineer, Rural Development (Rural Works) Division, Ramgarh. However, construction work was stalled (June 2013) after incurring expenditure of ₹ 3 crore out of allotted fund of ₹ 3.50 crore due to corruption charges and action contemplated (August 2015) by the Anti-Corruption Bureau, Jharkhand, Ranchi against the executing agency.

Further, Detailed Project Report (DPR) of balance works of building including infrastructural facilities for ₹ 12.66 crore[91] was technically approved (January 2020) by JSBCCL and submitted (January 2020) to the Department for revised Administrative Approval which was awaited (June 2020). As such, the remaining work could not be resumed and DH, Ramgarh was functioning in the building of MCH centre since April 2016.

The photograph of the incomplete 100 bedded hospital building is given below:

[91] Balance civil work: ₹ 3.52 crore; Plumbing & Sanitary work: ₹ 0.39 crore; Internal Electric work: ₹ 1.70 crore; Added New items: road parking and parking shed: ₹ 0.29 crore; rain water harvesting: ₹ 0.03 crore; underground water tank and pump room: ₹ 0.13 crore; Borewell: ₹ 0.15 crore; Entrance gate: ₹ 0.01 crore and other miscellaneous works: ₹ 1.74 crore including already executed work: ₹ 3.95 crore

Photograph showing incomplete 100 bedded District Hospital building at Ramgarh

8.3.5 Non-operational Burn Units

Construction of 10 bedded burn units with furniture and equipment in all the 24 DHs (including for DH, Dhanbad under-construction) was administratively and technically approved (August 2014) at a cost of ₹ 1.35 crore each. Later on, four units were dropped for want of required land in two districts (Godda and Palamu) and in the departmental meeting (January 2016) without assigning any reason in two districts (Giridih and Hazaribag). Construction of the remaining 20 units, including supply and installation of equipment, were taken up during 2014-16 at an agreed value of ₹ 23.55 crore[92] for completion between September 2015 and January 2017.

Audit observed (June 2020) that the Principal Secretary of the Department instructed (March 2016) the Directorate to direct the contractors to complete the civil works only and equipment component of the agreements would be procured by JMHIDPCL as the equipment were of special nature for which specifications were to be carefully drawn keeping in view the quality standards. Consequently, buildings (civil works only) were completed at ₹ 12.40 crore and handed over (between September 2015 and January 2017) to the DHs. However, JMHIDPCL was not provided funds for procurement of equipment as of June 2020. In the absence of equipment, burn units of the four test-checked districts could not be made functional as discussed in ***Paragraph 4.6* of *Chapter 4***.

The Department did not furnish replies to the audit observations.

To sum up, *the objective of providing access to health facilities at DHs remained unachieved due to non-assessment of requirement of number of beds commensurate with the increase in population of the district. Delay in completion of building works and failure of the Department to operationalise the completed buildings also aggravated the problem of inadequate access to quality health care.*

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[92] Excluding agreement values for five units (Jamtara, Khunti, Sahibganj, Simdega and West Singhbhum) which was not provided to audit.

Chapter 9 Recommendations

District hospitals being the pivotal point of the public health system in Jharkhand, influence the performance of the entire healthcare system. Despite a considerable increase in public health expenditure in the State during 2014-19, the test-checked district hospitals (DHs) did not fare well on the outcome indicators relating to efficiency, service quality and clinical care capabilities.

In order to provide the right care at the right time in district hospitals, the State Government may consider implementing the following recommendations:

Policy framework for healthcare services

- The State Government should ensure that the existing standards and norms for provisioning of services and resources for the district hospitals are strictly followed. Punitive action should be taken against officials for intentional violation of norms or negligence in services.

Out-Patient services

- Consultation time should be reviewed and sufficient doctors may be deployed in identified OPDs with low consultation time to ensure satisfaction of patients with the consultation process.
- The inequities in the number of registration counters *vis-à-vis* the rising patient demand should be addressed to reduce waiting time for patients and seating/ toilet facilities should be improved.
- The grievance redressal mechanism should be revamped and activated in all DHs to improve their performance by pre-defined interventions to address the issues related to patient satisfaction.

Diagnostic services

- The availability of essential radiological and pathological equipment, all types of pathological investigations and required manpower as per existing standards and norms should be ensured at DHs.

In-Patient services

- Government should proactively synergise availability of specialised in-patient services along with the essential drugs, equipment and human resources in DHs to ensure access to quality medical care.

- All essential IPD services including ICU and Burn Ward facilities should be ensured at all DHs with appropriate resources so that critical patients may get immediate treatment.
- Quality standard should be ensured in respect of diets provided to in-patients.

Maternity services

- Prescribed intra-partum and post-partum care should be ensured towards minimising adverse pregnancy outcomes.
- SNCUs should be made functional in all DHs.
- Payments of cash assistance under JSY should be ensured prior to discharge of beneficiary from the hospital.

Infection control

- Detailed SOPs for infection control and cleaning activities should be framed by all DHs and their implementation and monitoring should be ensured by District Infection Control Committees.
- Prescribed disinfection and sterilisation of equipment should be ensured with proper documentation of the process.
- Disposal of liquid chemical waste should be ensured as per the provisions of Bio-Medical Waste Management Rules 2016.

Drug management

- The Department should set clear timelines for procurement and testing of essential drugs and ensure adherence to these timelines, failing which responsibility should be fixed and action taken against erring officials.
- Storage of drugs under proper conditions as prescribed in the Drugs and Cosmetics Rules, 1945 to maintain their efficacy should be ensured.

Building infrastructure

- The Department should plan to upgrade the bed capacity of DHs, commensurate with the increase of population in the districts as per IPHS norms.

- The Department should review all incomplete hospital buildings and address the bottlenecks that are causing delays. Idle buildings should be operationalised by deploying adequate equipment and manpower.
- Responsibility should be fixed for negligence/lapses leading to inordinate delays in construction of hospital buildings and equipment lying idle.

Ranchi
The 10 December 2021

(INDU AGRAWAL)
Principal Accountant General (Audit)
Jharkhand

Countersigned

New Delhi
The 15 December 2021

(GIRISH CHANDRA MURMU)
Comptroller and Auditor General of India

Appendices

Appendix No. 2.1

(Referred to in Paragraph 2.3.1)

Average consultation time in OPDs

Name of DH	Sampled month	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)
		Dental		Gynae		Medicine		Paed		Ortho		Optho		Surgical	
Deoghar	May-14	NA	NA	41	8.75	94	3.82	NA	NA	NA	NA	24	14.75	NA	NA
	Aug-15	NA	NA	60	6	108	3.32	NA	NA	NA	NA	30	11.81	75	4.77
	Nov-16	NA	NA	41	8.76	128	2.82	66	5.45	NA	NA	NA	NA	83	4.32
	Feb-18	NA	NA	54	6.67	140	2.56	77	4.67	NA	NA	NA	NA	NA	NA
	May-18	NA	NA	74	4.88	151	2.38	NA	NA	52	6.98	NA	NA	44	8.14
East Singhbhum	May-14	11	32.97	30	12.1	79	4.56	48	7.43	40	8.91	19	18.99	14	25.14
	Aug-15	11	33.71	38	9.44	85	4.22	20	17.93	38	9.52	27	13.57	31	11.57
	Nov-16	9	38.52	53	6.73	98	3.69	43	8.42	37	9.72	17	21.03	36	9.88
	Feb-18	24	15	109	3.3	129	2.79	36	9.92	22	16.21	31	11.79	33	11.02
	May-18	18	19.88	75	4.8	97	3.7	35	10.42	14	26.06	25	14.51	21	17.11
Hazaribag	May-14	13	27.69	66	5.47	325	1.11	NA	NA	NA	NA	46	7.91	NA	NA
	Aug-15	44	8.15	61	5.89	163	2.2	NA	NA	NA	NA	46	7.83	NA	NA
	Nov-16	NA	NA	48	7.55	196	1.84	NA	NA	NA	NA	67	5.37	NA	NA

Name of DH	Sampled month	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)	Patient load per day per doctor	OPD departments/range of consultation	Patient load per day per doctor	OPD departments/range of consultation time (in minutes)
	Feb-18	35	10.29	88	4.11	222	1.62	NA	NA	NA	NA	103	3.51	NA	NA
	May-18	17	21.79	103	3.5	218	1.65	NA	NA	NA	NA	81	4.43	NA	NA
Palamu	May-14	18	20.5	57	6.34	93	3.87	59	6.11	NA	NA	51	7.08	101	3.56
	Aug-15	24	15.31	68	5.27	132	2.72	118	3.06	NA	NA	44	8.21	118	3.06
	Nov-16	27	13.37	110	3.29	100	3.61	90	4	NA	NA	38	9.47	110	3.29
	Feb-18	26	13.71	83	4.33	140	2.58	116	3.12	NA	NA	56	6.46	139	2.6
	May-18	19	18.48	37	9.76	120	3	90	3.98	NA	NA	62	5.77	139	2.59
Ramgarh	May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aug-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Nov-16	13	27.53	60	6.04	89	4.07	50	7.2	NA	NA	11	34.29	28	12.96
	Feb-18	NA	NA	68	5.33	92	3.92	50	7.2	NA	NA	45	8.01	33	10.8
	May-18	NA	NA	68	5.3	104	3.46	49	7.32	NA	NA	32	11.21	26	13.65
Ranchi	May-14	15	24.27	109	3.3	92	3.92	84	4.29	NA	NA	42	8.57	26	14.12
	Aug-15	21	17.42	130	2.78	174	2.07	106	3.4	NA	NA	60	5.97	38	9.56
	Nov-16	11	33.75	141	2.55	167	2.15	80	4.5	NA	NA	32	11.13	22	16.49
	Feb-18	20	17.85	194	1.86	225	1.6	102	3.53	49	7.42	55	6.51	40	9.11
	May-18	18	20.38	158	2.28	136	2.64	118	3.06	72	5.03	40	9.04	13	23.34

Appendix – 4.1

(Referred to in paragraph 4.2.2)

Table showing shortage/excess of paramedics and staff nurses in test-checked DHs

Name of posts	Name of DH					
	Deoghar	**East Singhbhum**	**Hazaribag**	**Palamu**	**Ramgarh**	**Ranchi**
Staff Nurse	5	34	107	78	34	64
Paramedics						
Lab Tech	4	2	2	1	4	4
Pharmacist	1	1	6	5	3	3
Storekeeper	1	0	1	0	1	0
Radiographer	1	2	1	0	2	2
ECG Tech/Eco	1	0	3	-1	1	2
Audiometrician	0	0	1	0	0	0
Optha. Assistant.	1	0	0	-1	-2	1
EEG Tech.	0	0	1	0	0	0
Dietician	1	1	1	1	1	1
Physiotherapist	1	0	2	1	0	1
O.T. technician	4	0	8	3	4	6
CSSD Assistant	1	1	2	1	1	1
Social Worker	2	2	3	3	2	3
Counsellor	1	1	2	-1	1	0
Dermatology Technician	0	0	1	0	0	0
Cyto Technician	0	0	1	0	0	0
PFT Tech	0	0	0	0	0	0
Dental Technician	1	1	2	1	1	1
Darkroom Assistant	2	2	5	3	2	3
Rehabilitation Therapist	1	1	2	1	1	1
Biomedical Engineer	1	1	1	1	1	1
Total	**24**	**16**	**45**	**18**	**21**	**31**

Source: Records of test-checked DHs

Appendix 4.2

(Referred to in paragraph 4.11)

Outcome Indicators

Type	Quality Indicator	Numerator	Denominator
Productivity of hospitals	BOR (in *per cent*)	Total patient bed days in a month	Total number of functional beds x Number of days in a month
	C-section rate (in *per cent*)	Total number of C-sections conducted	Total number of deliveries
Efficiency of hospitals	BTR	Total number of discharges	Total number of functional beds
	DR (in *per cent*)	Total number of discharges	Total number of admissions
	ROR (in *per cent*)	Total number of cases referred to higher facility	Total number of admissions
Clinical care capability of hospitals	ALoS (in days)	Total patient bed days	Total number of admissions
	AER (in *per cent*)	Total number of adverse events	Total number of admissions
Service quality of hospitals	LAMA (in *per cent*)	Total number of LAMA & Absconding cases	Total number of admissions
	Patient satisfaction score	Sum of average satisfaction score of each respondent	Total number of respondents

Appendix 4.3

(Referred to in paragraph 4.13)

Patient Satisfaction Score

Service	Question	East Singhbhum				Hazaribag				Ranchi			
		Poor	Satis-factory	Good/Very Good	Excellent	Poor	Satis-factory	Good/Very Good	Excellent	Poor	Satis-factory	Good/ Very Good	Excellent
IPD	Waiting time at Registration counter	0	5	26	0	6	3	3	13	0	0	7	3
	Cleanliness of ward	0	5	21	5	1	9	14	1	0	0	7	3
	Cleanliness of bedsheet/ pillow cover	0	6	20	5	7	11	5	2	0	2	8	0
	Attention of Doctors on regular basis	0	4	21	6	2	11	8	4	0	0	2	8
	Overall satisfaction on your treatment	0	2	29	0	4	11	8	2	0	0	9	1
OPD	Waiting time at Registration counter	2	1	17	10	4	4	5	12	0	4	6	5
	Cleanliness of OPD, bathroom & toilet	1	2	16	11	1	16	8	0	0	0	7	8
	Attitude and communication skill of Doctors	1	3	18	8	0	8	17	0	0	1	9	5
	Time taken for investigation & consultation	2	3	18	7	2	3	8	12	0	0	13	2
	Readiness/ Promptness at the medicine counter	2	3	19	6	1	10	12	2	0	1	14	0

(Source: Test-checked DHs)

Appendix – 5.1

(Referred to in paragraph 5.4.3)

Administration of zero dose vaccines to new born babies in test-checked cases during sampled month (May-2018)

District	Total delivery	BCG	OPV	Hepatitis-B	Vit-K	Remarks
Deoghar	102	80	101	101	101	IUD-01
E. Singhbhum	24	23	23	23	23	1 (still birth)
Hazaribag	151	0	0	0	74	03 IUD
Palamu	78	54	54	53	73	2 (Still birth)
Ramgarh	69	15	15	15	37	0
Total	**424**	**172**	**193**	**192**	**308**	
Percentage		**41**	**46**	**45**	**73**	

Appendix 6.1

(Referred to in paragraph **6.5.1)**

Availability of linen

Sl. No.	Name of linen article	Required numbers as per IPHS		Name of DHs (quantity available)					
		for 101-200 bedded hospital	for 201-300 bedded hospital	Deoghar (100 bedded)	East Singhbhum (100 bedded)	Hazaribag (250 bedded)	Palamu (200 bedded)	Ramgarh (100 bedded)	Ranchi (200 bedded)
1	Bedsheets	800	1200	4095	700	2037	1277	453	913
2	Bedspreads	1200	1800	0	0	0	0	0	0
3	Blankets	50	100	107	106	254	73	273	194
4	Patna towels	300	1000	2	0	53	0	619	163
5	Table cloth	60	75	8	0	2	0	0	0
6	Draw sheet	100	150	0	80	0	0	20	10
7	Overcoat	60	90	3	0	0	0	30	32
8	OT coat	250	400	21	0	32	0	25	0
9	Patients house coat (for female)	600	900	0	110	0	0	10	16
10	Patients Pyjama/ Shirt (for male)	300	400	10	0	5	0	0	61
11	Over shoes pair	80	100	0	0	0	0	0	0
12	Pillows	300	450	11	50	13	14	104	166
13	Pillows covers	600	900	8	702	26	14	133	298
14	Mattress (foam) Adult	200	300	123	44	183	0	0	227
15	Paediatric Mattress	20	40	12	1	0	0	0	2
16	Abdominal sheets for OT	150	200	11	0	0	0	100	335
17	Perineal sheets for OT	150	200	0	0	0	0	0	10
18	Leggings (in pairs)	100	150	0	4	0	0	0	0
19	Mortuary sheet	50	70	0	0	0	0	0	0
20	Mats (Nylon)	100	200	0	0	0	0	0	1
21	Mackintosh sheet (in meters)	200	300	13	8	50	0	200	37

Appendix 6.2

(Referred to in paragraph **6.5.2)**

Availability of linen in excess/ shortage of requirement

Sl. No	Name of linen article	Required numbers as per IPHS		Name of DHs											
		for 101-200 bedded hospital	for 201-300 bedded hospital	Deoghar (100 bedded)	Excess/ shortage (in *per cent*)	East Singhbhum (100 bedded)	Excess/ shortage (in *per cent*)	Hazaribag (250 bedded)	Excess/ shortage (in *per cent*)	Palamu (200 bedded)	Excess/ shortage (in *per cent*)	Ramgarh (100 bedded)	Excess/ shortage (in *per cent*)	Ranchi (200 bedded)	Excess/ shortage (in *per cent*)
1	Bedsheets	800	1200	4095	3295 (412)	700	-100 (13)	2037	837 (70)	1277	477 (60)	453	-347 (43)	913	113 (14)
2	Blankets	50	100	107	57 (114)	106	56 (112)	254	154 (154)	73	23 (46)	273	223 (446)	194	144 (288)

Appendix – 7.1

(Referred to in paragraph 7.4)

Storage of drugs

Sl. No.	Parameters	Deoghar	East Singhbhum	Hazaribag	Palamu	Ramgarh	Ranchi
1	Air-conditioned pharmacy	No	Yes	No	No	No	No
2	Labelled shelves/racks	No	Yes	No	Yes	No	No
3	Away from water and heat	Yes	Yes	Yes	Yes	Yes	No
4	Drugs stored above the floor	Partially	Yes	Partially	Yes	Partially	No
5	24-hour temperature recording of cold storage area	Yes	Yes	Yes	No	No	Partially
6	Drugs stored away from walls	Partially	Yes	Yes	Yes	Yes	Yes
7	Display instructions for storage of vaccines	Yes	Yes	Yes	Yes	No	Partially
8	Functional temperature monitoring device in freezers	Yes	Yes	Yes	Yes	No	Yes
9	Maintenance of temperature chart of deep freezers	Yes	Yes	Yes	Yes	No	Yes
10	Drugs kept under lock and key	Yes	Yes	Yes	No	NA	Yes
11	Poisons kept in a locked cupboard	Yes	NA	Yes	NA	NA	No
12	Expired drugs stored separately	Yes	Yes	Partially	Yes	Yes	Yes

(Source: Test-checked hospitals)

Appendix – 8.1

(Referred to in paragraph 8.2.1)

Physical and financial achievement of test-checked infrastructure works

Sl. No.	Scheme Name	District	AA Cost/ TS value (₹ in crore)	Agreement amount (in crore)	Agreement date	Scheduled date of completion	Total expenditure (in crore)	Project progress status	Hand over status	Remarks
1	10 Bedded Burn Unit	Deoghar	1.35	1.40	12/6/2015	12/5/2016	0.19	Completed	Handed over	Handed over by Civil Surgeon, Deoghar (Letter No.1568 dated 03-08-2018)
2	10 Bedded Burn Unit at Sadar Hospital campus	Hazaribag	1.35					**Dropped**		Dropped in the Departmental Meeting on 23-01-2016
3	10 Bedded Burn Unit, Palamu	Palamu	1.35					**Dropped**		Dropped. Land not made available by the Civil Surgeon.
4	10 Bedded Burn Unit at Sadar Hospital campus	Ramgarh	1.35	1.40	28/4/2015	27/3/2016	0.51	Completed	Handed over	Handed over.
5	Residual work in of 500 Bedded Sadar Hospital, Ranchi	Ranchi	6.09	6.31	14/6/2017	13/10/2017	5.44	Completed	Handed over	Handed over (Ward Building) except testing of DG & 2 Nos. of UPS
6	Remaining work of 500 Bedded Sadar Hospital (with Ward) at Ranchi	Ranchi	167.57	179.21	28/11/2017	27/2/2019	52.63	Work in progress		
7	Construction of Ware-house, Sadar, Ranchi	Ranchi	1.98	1.71	2/2/2016	1/1/2017	1.04	Completed		All works completed. Agency has been instructed to rectify some minor issues.
8	Construction of Blood Bank with equipment, Ranchi	Ranchi	1.75	5.16	22/10/2014	21/9/2016	1.01	Completed	Handed over	Handed over on 27-03-2018 (vide letter No. 998)

Sl. No.	Scheme Name	District	AA Cost/ TS value (₹ in crore)	Agreement amount (in crore)	Agreement date	Scheduled date of completion	Total expenditure (in crore)	Project progress status	Hand over status	Remarks
9	Construction of Blood Bank with equipment Building, Sadar, Lohardaga	Lohardaga	1.75				0.98	Completed	Handed over	Handed over to DS, Sadar Hospital, Lohardaga on 28-11-2016
10	Construction of Blood Bank Building with equipment, Sadar, Gumla	Gumla	1.75				0.98	Completed	Handed over	Handed over to DS, Sadar Hospital, Gumla on 28-10-2016
11	B, C & D types quarters at Sadar Hospital Campus, Jamshedpur	East Singhbhum	3.00	3.33	30/10/2013	28/2/2015	3.72	Completed	Handed over	₹ 11.92 lakh needed for the work. Deviation statement given.
12	Upgradation of existing Sadar Hospital for Medical College at Hazaribag	Hazaribag	31.58	26.91	15/1/2019	3/12/2019	10.36	Work in progress		(i) Boundary wall (70%) (ii) Renovation of Eye ward (iii) Female ward (90%) (iv) Trauma Centre renovation work completed (v) M. Bldg. - Plaster work, Electrification work in progress (vi) Maternity Bldg. (second and third floor - all work completed & Gas pipeline work in progress (vii) Maternity Block (Ground and First floor - 75%, (viii) OPD Bldg. - 80 % work completed (ix) Male ward - 80% work completed and Bathroom work in progress (x) External Electrification work, Road work, Drain work not started yet

Sl. No.	Scheme Name	District	AA Cost/ TS value (₹ in crore)	Agreement amount (in crore)	Agreement date	Scheduled date of completion	Total expenditure (in crore)	Project progress status	Hand over status	Remarks
13	Upgradation of existing Sadar Hospital for Medical College at Palamu	Palamu	36.37	34.48	17/11/2018	16/2/2020	7.67	Work in progress		P.P ward, Skill Lab & Diagnostic Centre renovation completed, S.F. roof shuttering in progress in 100 Bedded hospital, Retaining wall work in progress, Renovation work in progress in maternity ward, emergency block, prisoner ward etc.
	Total		**257.24**	**259.91**			**84.54**			**Expenditure** **Completed works: ₹ 13.89 crore** **Incomplete works: ₹ 70.65 crore**

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