CHAPTER 3

HEALTHCARE SERVICES

Health facilities, at the primary and secondary levels of the healthcare system, did not adequately conform to the Indian Public Health Standards and National Health Policy (NHP) norms. There were considerable gaps in the availability of Outdoor Patient Department and In-Patient Department services in the test-checked hospitals. CHCs were most deficient in providing specialised medical services, due to absence of specialists. There was a serious dearth of emergency and trauma care services, due to deficient infrastructure, manpower and equipment. ICU services were available, in only 17 out of the 32 DHHs of the State. Various deficiencies were observed in regard to the early identification and management of complications during pregnancy, childbirth and the post-partum period. The capability to provide adequate maternity services, was especially lacking in the CHCs, which had substantial shortages of human resources and investigation facilities. The full range of diagnostic services was not available in the test-checked hospitals, impacting the efficiency of healthcare offered. Support and auxiliary services, including diet, laundry, mortuary, *etc*., were also deficient in terms of the availability of infrastructure and equipment.

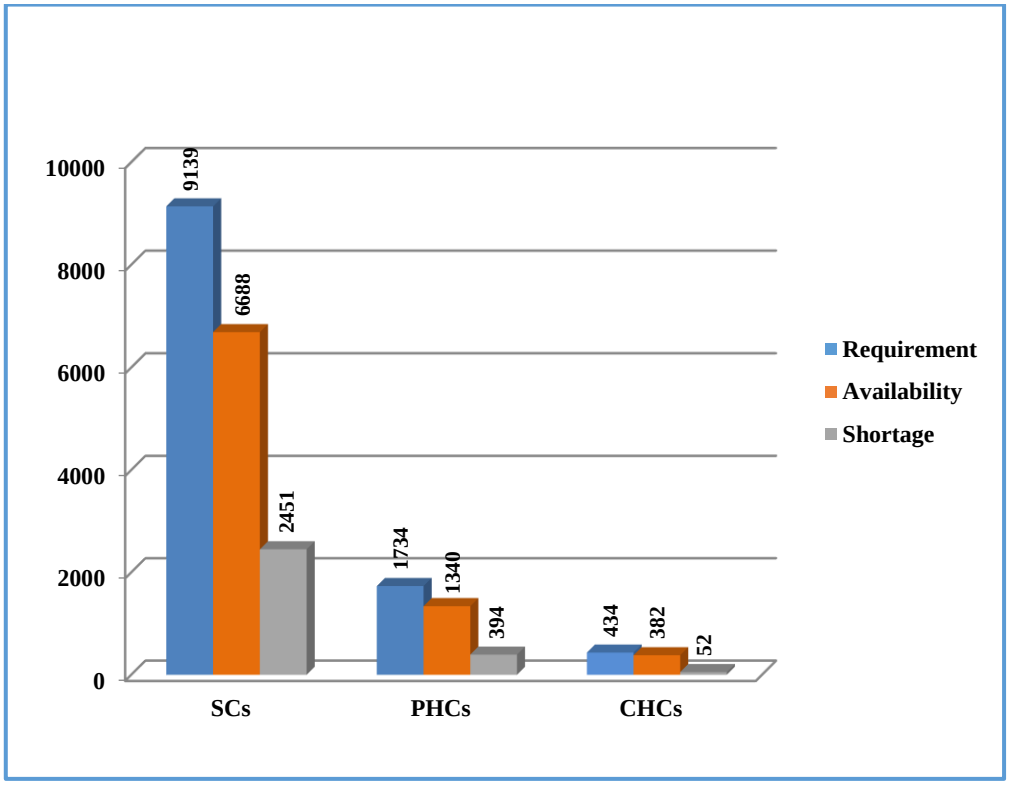
3.1 Availability of healthcare facilities

In Odisha, each of the 30 districts has a District Headquarter Hospital (DHH), as per the norms of the Indian Public Health Standards[33] (IPHS). In addition, two major hospitals (Capital Hospital and Rourkela Government Hospital) also have the status of a DHH. Accordingly, there were 32 DHHs in the State, as of March 2022.

As per IPHS, one CHC should cater to a population of 80,000 in tribal/ hilly/ desert areas and 1,20,000 in plain areas. One PHC should cater to a population of 30,000 and one Sub Centre (SC) to a population of 5,000. Audit observed that there was a significant shortfall against these norms, in the State, with 27 *per cent* shortage in SCs, 23 *per cent* in PHCs and 12 *per cent* in CHCs. The requirement, availability and shortage of health facilities, as of March 2022, are shown in **Chart 3.1**.

[33] IPHS: Sets of standards recommended for District Hospitals, CHCs & PHCs by Ministry of Health & Family Welfare, Government of India

Chart 3.1: Requirement, availability and shortage of healthcare facilities in Odisha



(Source: Data obtained from the Director of Health Services and National Health Mission, Odisha)

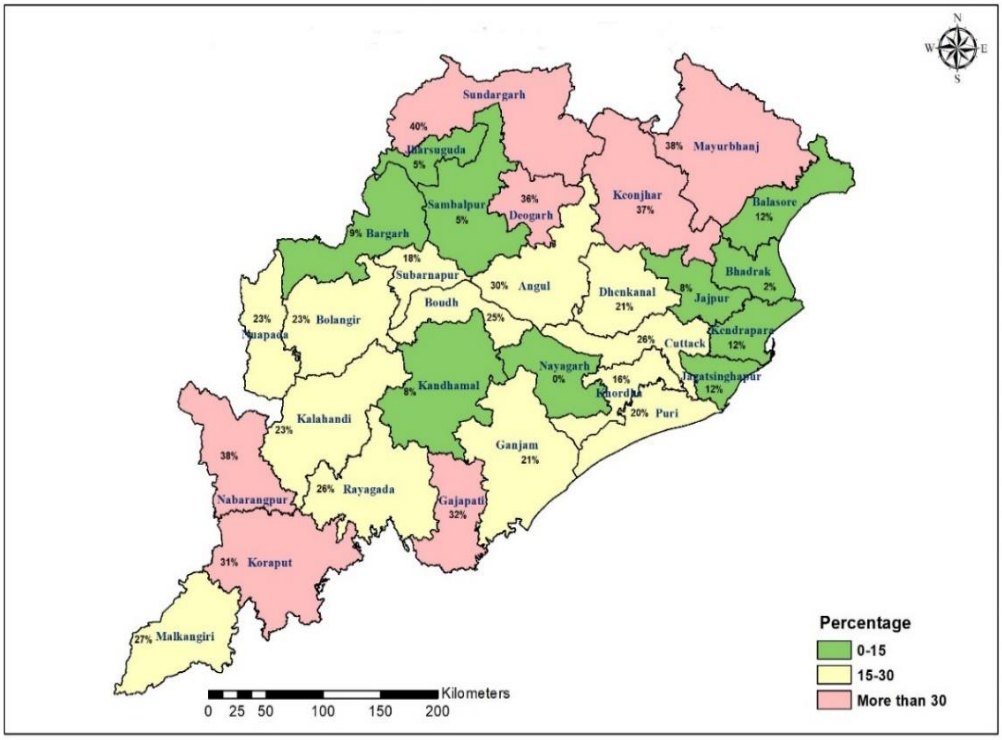
The shortage of CHCs, compared to the population norms[34], was more than 30 *per cent* in three districts (Bhadrak, Kendrapara and Nabarangpur), whereas the shortages of PHCs and SCs were more than 30 *per cent* in seven[35] and 16[36] districts, respectively. The district-wise requirement and shortage of CHCs, PHCs and SCs is given in ***Appendix 3.1***. The shortages of PHCs and SCs in terms of percentage, are shown in **Maps 3.1** and **3.2,** respectively.

[34] The norm of 5,000 population for SCs, 30,000 for PHCs and 1,20,000 for CHCs, has been considered to assess the requirement of healthcare facilities

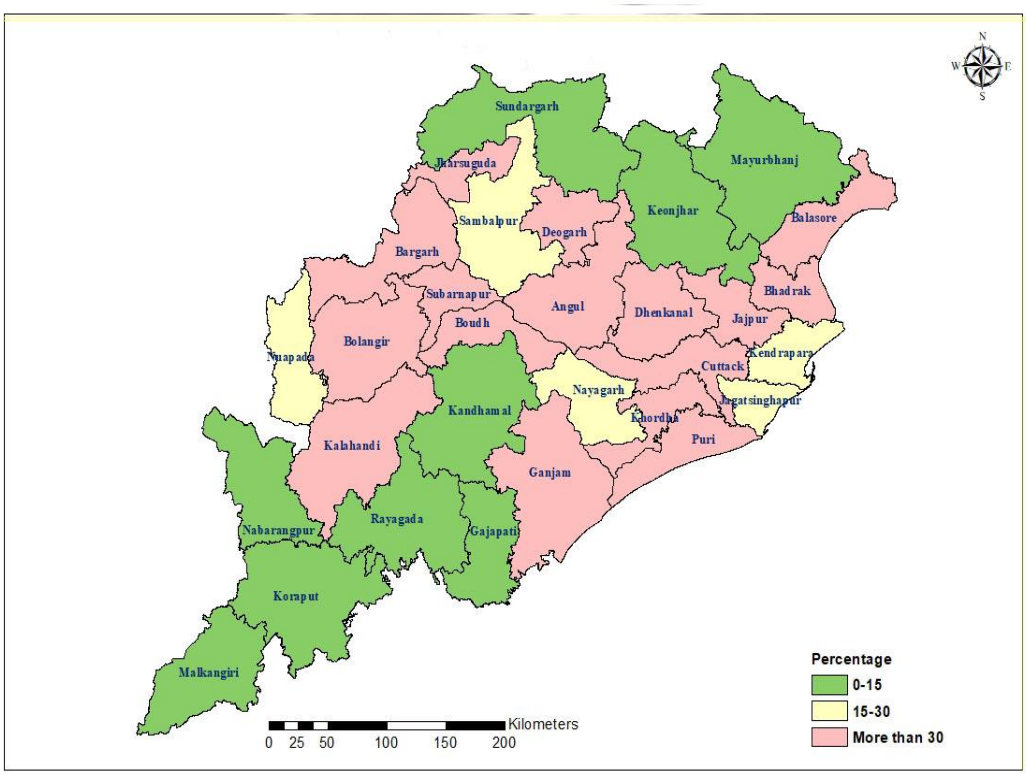
[35] Deogarh, Gajapati, Keonjhar, Koraput, Mayurbhanj, Nabarangpur and Sundargarh

[36] Angul, Bolangir, Balasore, Bargarh, Bhadrak, Boudh, Cuttack, Deogarh, Dhenkanal, Ganjam, Jajpur, Kalahandi, Khurda, Jharsuguda, Puri and Subarnapur

Map 3.1: Percentage of shortages of PHCs in the districts across the State



Map 3.2: Percentage of shortages of SCs in the districts across the State



Based on the requirement, the Chief District Medical and Public Health Officers (CDM&PHOs) of the districts, submit their proposals to the Director of Health

Services (DHS), Odisha, for creation/ up-gradation of healthcare facilities. The DHS, after examining the proposals through its Sub-committee[37], sends the same to the Government, for creation/ up-gradation of healthcare facilities in the State.

During the period from March 2018 to March 2021, DHS had submitted proposals for establishment/ up-gradation of 72 healthcare facilities[38] in 26 districts, to Government for approval. However, Government had not approved any of these proposals, as on 31 March 2022.

Government reconstituted (July 2022) a Screening Committee at the Directorate level and a High Powered Committee at the State level, for examination of the proposals and submission of recommendations, in regard to establishment of new PHCs, upgradation of existing PHCs to CHCs, CHCs to SDHs and DHHs, as well as enhancement of the bed strength of healthcare facilities, considering the IPHS norms, 2022, geographical conditions, availability of manpower, budget provisions, *etc*.

The H&FW Department stated (February 2023) that the gaps were analysed and steps had been taken to revamp the infrastructural development, as per the IPHS norms in a phased manner.

3.1.1 Healthcare Facilities under AYUSH

Government of Odisha provides healthcare services under AYUSH[39] systems of medicine to the people of the State. The healthcare services were provided through AYUSH hospitals and dispensaries. Government healthcare facilities available in the State, as of March 2022, are shown in **Table 3.1**.

Table 3.1: Healthcare facilities available in the State

Sl. No.	Name of the Institutions	Number of HCIs available
1	Government Ayurvedic Dispensaries	620
2	Government Unani Dispensaries	9
3	Government Homoeopathic Dispensaries	562
4	Homoeopathic Medical Colleges and Hospitals	4
5	Ayurvedic Medical Colleges and Hospitals	3
6	Government Ayurvedic Hospitals	2

(Source: Directorate of AYUSH, Odisha)

The district-wise availability of healthcare facilities under Ayurveda, Homeopathy and Unani, as of March 2022, is shown in ***Appendix 3.2***.

3.2 Out-patient Services

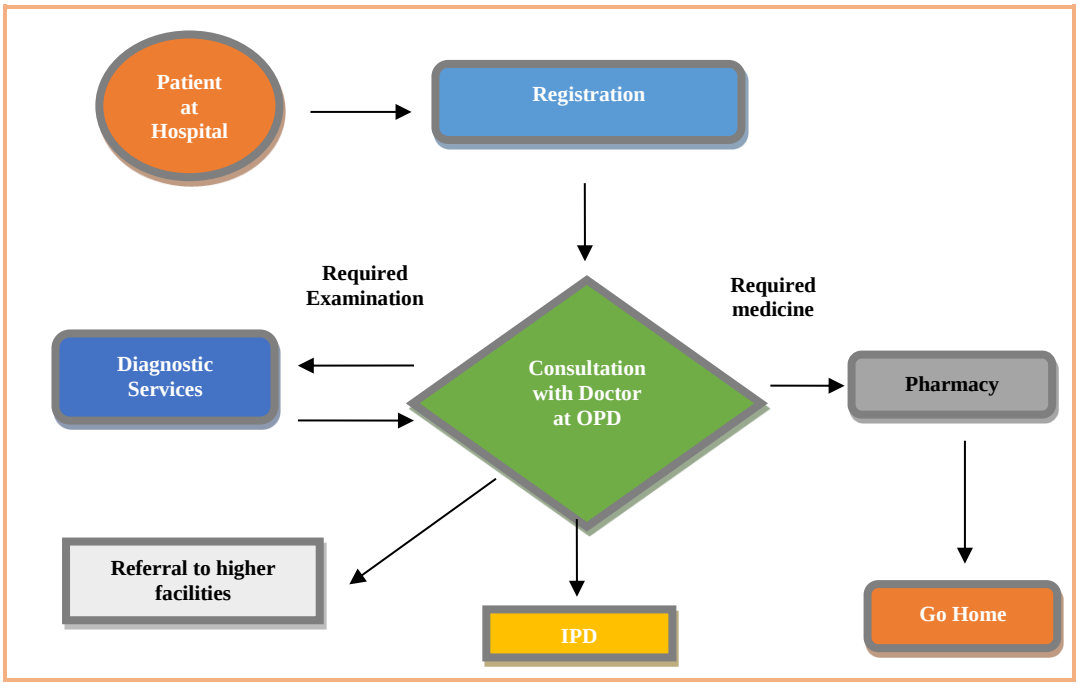
To avail of out-patient services in hospitals, patients first register at the Outdoor Patient Department (OPD). After registration, the concerned doctors examine the patients and either prescribe diagnostic tests for evidence based diagnosis, or drugs, during the consultation process. The flow of out-patient services is shown in **Figure 3.1**.

[37] Headed by the Additional Director of Health Services

[38] Opening of PHCs/UPHCs: 54; Upgradation of PHCs to CHCs: 12; Upgradation of CHCs / SDHs: 6

[39] Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy

Figure 3.1: Flow of outpatient services



Audit findings, pertaining to the In-Patient Department (IPDs), diagnostic services and pharmacies, are discussed in ***Paragraphs 3.3, 3.7*** and ***4.1,*** respectively. This paragraph discusses the audit observations in regard to the delivery of OPD services in hospitals.

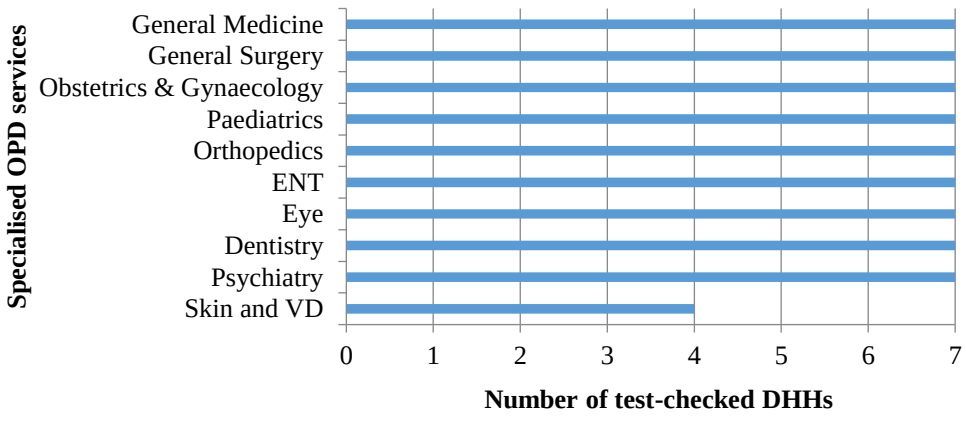
3.2.1 Availability of OPD services in hospitals

As per IPHS norm, the DHHs and CHCs are expected to provide essential specialised clinical services to the patients in OPDs.

3.2.1.1 District Headquarters Hospitals

Availability of specialised OPD services in all DHHs of the State, as prescribed under IPHS, is given in ***Appendix 3.3***. Audit, examined the availability of 10 specialised OPD services, in the seven test-checked DHHs and found that nine specialised OPD services were available in all the test-checked DHHs, as shown in **Chart 3.2**.

Chart 3.2: Availability of OPD Services in the test-checked DHHs



Audit, however, noticed the following deficiencies:

- OPD services for Skin and Venereal Diseases (VD) were not provided in the DHHs of Dhenkanal, Nabarangpur and Nuapada, due to non-availability of specialists.
- Dental OPD service was available at DHH, Bhadrak, but without dental X-ray facility. Two dental X-ray machines, costing ₹2.46 lakh, were available in store, but had been lying idle for 3-5 years, due to non-availability of technicians.
- ENT equipment/ instruments had not been supplied to the concerned doctor in DHH, Bhadrak, despite availability of the same in the sub-store of the hospital.

3.2.1.2 Community Health Centers

Audit examined the availability of five essential specialised OPD services, as prescribed under IPHS, in the 14 test-checked CHCs and noticed the status, as shown in **Table 3.2**.

Table 3.2: Availability of specialised OPD services in the test-checked CHCs

CHC	Availability of specialised OPD services				
	Medicine	Surgery	Obstetrics & Gynecology	Paediatric	Dental
Bangurigaon	No	No	No	No	Yes
Barapada	No	No	No	No	No
Basudevpur	No	Yes	Yes	Yes	Yes
Khajuriakata	No	No	No	No	Yes
Khariar road	No	No	No	No	No
Komna	No	No	No	No	Yes
Kosagumuda	No	No	No	No	Yes
Kuarmunda	No	No	No	Yes	Yes
Lahunipara	No	No	Yes	No	Yes
Nimapara	No	Yes	Yes	Yes	Yes
Papdahandi	No	No	Yes	No	Yes
Raikia	No	No	No	No	No
Sriramchandrapur	No	No	No	No	No
Tikabali	No	No	No	No	No

(Source: Data obtained from the test-checked CHCs and JPI)

Audit observed that none of the 14 test-checked CHCs, had all the prescribed specialised OPD services, due to non-availability of specialists.

Thus, the test-checked hospitals were not IPHS compliant, in terms of delivery of essential OPD services.

3.2.2 Patient load in OPD

Out-patient services in DHHs are catered through OPD clinics on daily basis. The number of out-patients attended to, by the test-checked DHHs, during FYs 2016-17 to 2021-22, is given in **Table 3.3**.

Table 3.3: OPD patients in the test-checked DHHs

DHHs	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Bhadrak	3,14,939	2,82,290	3,37,513	3,97,304	2,05,273	2,49,911
Dhenkanal	29,231	27,847	43,052	53,199	36,696	48,277

DHHs	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Kandhamal	NA	1,79,297	2,28,410	3,01,985	1,62,170	2,03,253
Nabarangpur	70,691	84,965	1,09,665	1,43,068	79,334	22,224
Nuapada	70,412	86,878	1,17,523	1,36,582	86,355	77,262
Puri	2,51,715	3,44,011	4,50,608	6,39,651	4,90,182	4,75,492
Sundargarh	2,49,358	3,13,920	2,67,992	3,12,516	2,92,995	3,19,125
Total	**9,86,346**	**13,19,208**	**15,54,763**	**19,84,305**	**13,53,005**	**13,95,544**

(Source: Data obtained from the test-checked DHHs)

Table 3.3 shows that the number of out-patients in the test-checked DHHs increased by 101 *per cent* in FY 2019-20 (19.84 lakh), compared to the patient load in FY 2016-17 (9.86 lakh). The patient load, however, decreased during FY 2020-21 and FY 2021-22, in comparison to the FY 2019-20, due to Covid-19 measures. It was noticed that the number of out-patients was more in the departments like, General Medicine, Pediatric, O&G and Ophthalmology, compared to other departments in the district hospitals, as detailed in ***Appendix 3.4***.

Similarly, the number of OPD patients had an increasing trend in the test-checked CHCs, during the period from FYs 2016-17 to 2019-20, which decreased during FYs 2020-21 to 2021-22, due to Covid-19 measures, as detailed in **Table 3.4**.

Table 3.4: OPD patients in the test-checked CHCs, during FYs 2016-17 to 2021-22

Sl. No.	CHCs	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
1	Basudevpur	76,413	81,219	98,839	1,33,130	62,422	1,18,840
2	Barpada	34,093	31,395	24,984	22,112	24,523	39,532
3	Sriram Chandrapur	21,379	18,128	23,612	30,555	27,788	29,568
4	Khajuria Kata	20,031	19,512	21,159	27,302	19,146	20,928
5	Raikia	40,120	44,094	54,908	73,170	40,515	37,928
6	Tikabali	43,404	52,177	60,635	65,944	28,978	23,182
7	Kosagumuda	28,601	23,577	28,569	31,111	20,233	13,376
8	Papadahandi	22,911	19,068	27,376	33,347	20,264	28,701
9	Komna	36,308	31,747	37,932	49,009	34,653	34,563
10	Khariar Road	30,166	37,554	43,568	48,416	19,426	23,251
11	Bangurigaon	24,706	28,893	44,667	34,729	20,173	14,792
12	Nimapada	78,746	59,096	76,581	1,12,162	71,275	68,434
13	Kuarmunda	35,828	33,086	36,750	40,766	22,291	22,795
14	Lahunipara	38,043	31,783	37,894	42,740	35,194	42,513

(Source: Data furnished by H&FW Department)

3.2.2.1 OPD cases per doctor in DHHs

OPD cases per doctor is an indicator for measuring efficiency of OPD services in a hospital. The OPD patient load per doctor per annum, is shown in ***Appendix 3.5.*** Audit analysed the patient load per doctor for sampled weeks in the test-checked DHHs, which is given in **Table 3.5**.

Table 3.5: Average OPD cases[40] per doctor per day, in sampled weeks during FYs 2017-18 to 2021-22 in test-checked DHHs

DHH	Average OPD Cases per doctor per day				
	1-7 August 2017	1-7 November 2018	1-7 February 2020	1-7 May 2020	1-7 August 2021
Bhadrak	90	91	70	21	47
Dhenkanal	19	13	18	12	11
Kandhamal	52	72	98	39	49
Nabarangpur	18	15	13	9	11
Nuapada	21	23	22	19	16
Puri	103	127	160	54	92
Sundargarh	44	32	32	16	27

(Source: Data obtained from the test-checked district hospitals)

Audit observed that average OPD patient load per doctor in DHHs of Dhenkanal, Nuapada, Nabarangpur and Sundargarh during FYs 2017-18 to 2019-20[41] was less, as compared to the other test-checked DHHs.

3.2.2.2 OPD cases per doctor in CHCs

The average OPD cases per doctor per day during sampled weeks of FYs 2017-18 to 2021-22, in the test-checked CHCs, is given in **Table 3.6**.

Table 3.6: Average OPD patient load per doctor per day in sampled weeks in the test-checked CHCs

CHC	Patient load per doctor per day in the test-checked CHCs				
	1-7 August 2017	1-7 November 2018	1-7 February 2020	1-7 May 2020	1-7 August 2021
Banugurigaon	34	29	26	19	19
Barapada	96	89	63	42	40
Basudevpur	75	135	59	1	76
Khajuriakata	102	50	29	40	46
Khariar Road	26	30	28	22	25
Komana	46	57	49	47	60
Kosagumuda	19	15	20	16	13
Kuarmunda	65	29	22	14	21
Lahunipada	53	52	60	45	46
Nimapara	32	153	62	78	84
Papadahandi	28	18	13	11	11
Sriramchandrapur	39	48	41	46	21
Raikia	77	96	60	31	25
Tikabali	72	74	138	70	32

(Source: Data obtained from the test-checked CHCs)

It would be seen from the above table that the average OPD patient load during FYs 2017-18 to 2021-22 in nine[42] test-checked CHCs was much less than the average patient load in five[43] test-checked CHCs.

[40] Considering six days a week

[41] OPD patient load for 2020-21 and 2021-22 is not commented as the OPD patient load got affected by Covid-19 measures.

[42] Bangurigaon, Khajurikata, Khariar Road, Komana, Kosagumuda, Kuarmunda, Lahunipada, Sriramchandrapur and Papadahandi

[43] Barapada, Basudevpur, Nimapara, Raikia, Tikabali

3.2.3 Patients' waiting time and consultation time

Audit observed that data relating to patients' waiting time and consultation time, was not maintained in the test-checked hospitals for studying and taking measures for reducing the waiting time for registration, consultation, *etc*., as required under IPHS.

Audit conducted (April-August 2022) patient surveys of 175 OPD patients in the seven test-checked DHHs, and 50 patients in the two test-checked MCHs. The responses of the patients, were as under:

OPD patients in queue for doctor's consultation at DHH, Bhadrak (19 May 2022)

- In DHHs, 12 *per cent* of the patients stated that they had to wait for 20 minutes or more in the registration counter. In the two test-checked MCHs, 39 (78 *per cent*), out of 50 patients, had to wait for more than 20 minutes, for registration to avail OPD service*s*. The longer waiting time for registration was due to inadequate numbers of registration counters, as discussed in ***Paragraph 3.10.1***.
- In the seven test-checked DHHs, 24 *per cent* patients stated that they had to wait for 20 minutes or more, to consult the concerned doctors. In the two test-checked MCHs, 44 patients (88 *per cent*) stated that they had waited for 20 minutes or more to consult a doctor.

3.2.4 Patient satisfaction survey

The NHM Assessor's Guidebook requires hospitals to conduct patient satisfaction surveys (PSS) of outdoor patients, on a monthly basis.

Audit noticed that PSSs had been conducted in all the test-checked DHHs. However, the feedback obtained had not been analysed and taken into consideration, while preparing action plans relating to the areas identified for improvement. For instance, as per the feedback received in DHH, Bhadrak, though improvement in services was required for cleanliness of wards, hospital surroundings, bio-medical waste management, *etc*., yet no action plan was prepared for corrective measures in this regard.

Also, patients' feedback formats/questionnaires had not been completely filled in all cases and had not been signed by the hospital authorities at DHH, Bhadrak. Some forms had been left blank, after obtaining the signatures of the patients, in advance.

Out of the 14 test-checked CHCs, PSSs were not conducted in nine[44] of the test-checked CHCs, during FYs 2017-18 to 2021-22. At CHC, Basudevpur, PSS had been discontinued since November 2021, due to shortage of staff.

[44] Barapada; Khajurikata; Komna; Kuarmunda; Lahunipara; Papadahandi; Raikia; Sriramchandrapur; Tikabali

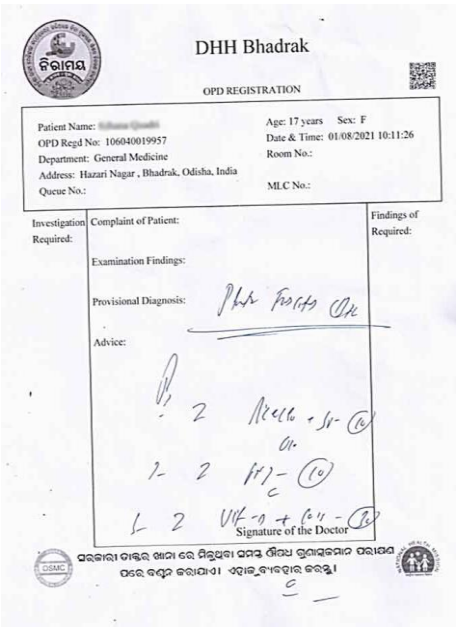
In view of the above and the results of the survey conducted by Audit, there was no assurance that the objective of conducting PSS had been achieved.

3.2.5 Completeness of prescription slip

Prescription Audit Guidelines, issued (June 2016) by the H&FW Department, mandate doctors to write medication orders legibly and adequately, since inaccuracy in writing, illegible handwriting or incomplete writing of a prescription, can lead to misinterpretation, leading to errors in dispensing and administration of medicine. The prescriptions should have the names of the drugs in capital letters, complaints of the patients, diagnosis/investigation, *etc*., with full signatures of the concerned doctors.

Audit test-checked 340 prescriptions (2018-22) in five DHHs and two MCHs and noticed that:

- The complaints of the patients were not recorded in 66 (47 *per cent*) prescriptions in DHHs, while provisional diagnosis was not mentioned in 29 *per cent* cases in MCHs.
- The prescriptions were not written in BOLD letters, in almost all cases.
- The full signatures of the doctors, with their names/stamps, were not available, in almost all the prescriptions.


DHH Bhadrak

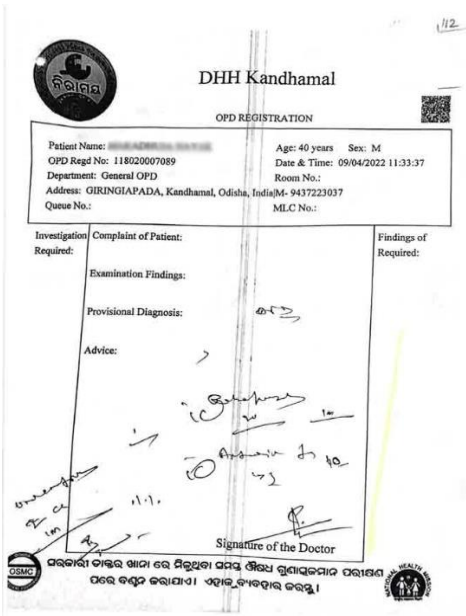
OPD REGISTRATION

Patient Name:
OPD Regd No: 106040019957
Department: General Medicine
Address: Hazari Nagar , Bhadrak, Odisha, India
Queue No.:
Age: 17 years Sex: F
Date & Time: 01/08/2021 10:11:26
Room No.:
MLC No.:

Investigation Required:
Complaint of Patient:
Examination Findings:
Provisional Diagnosis:
Advice:
Findings of Required:

Signature of the Doctor

Prescription at DHH, Bhadrak, in illegible hand writing and patient's complaints not recorded


DHH Kandhamal

OPD REGISTRATION

Patient Name:
OPD Regd No: 118020007089
Department: General OPD
Address: GIRINGIAPADA, Kandhamal, Odisha, India|M- 9437223037
Queue No.:
Age: 40 years Sex: M
Date & Time: 09/04/2022 11:33:37
Room No.:
MLC No.:

Investigation Required:
Complaint of Patient:
Examination Findings:
Provisional Diagnosis:
Advice:
Findings of Required:

Signature of the Doctor

Prescription at DHH, Kandhamal, in illegible hand writing.

Thus, writing of prescriptions in hospitals was not compliant with the prescribed guidelines and, due to lack of completeness of prescriptions, there was material risk of dispensing incorrect medicines to patients.

The H&FW Department stated (February 2023) that steps were being taken to induct specialist doctors in near future, and instructions had been issued to the CDM&PHOs to follow the guidelines, as per mandate.

3.3 In-patient Services

The In-patient 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 OPD and Emergency Services. In-patients require a higher level of care, through nursing services, availability of drugs/ diagnostic facilities, observation by doctors, *etc*.

This paragraph discusses the availability of IPD services, covering the results of audit examination across two MCHs, seven DHHs and 14 CHCs.

3.3.1 Availability of In-patient services

As per the IPHS and NHM Assessor's Guidebook, essential IPD services should be provided to patients in DHHs and CHCs.

3.3.1.1 District Headquarter Hospitals (DHHs)

Out of the 16 essential IPD services to be provisioned in DHHs, only seven services were found to be available in all the seven test-checked DHHs. Availability of the remaining nine IPD services was found to be deficient in one to five of the test-checked DHHs, as depicted in **Table 3.7**.

Table 3.7: Availability of IPD services in the test-checked DHHs

Inpatient services	Availability of services in test-checked DHHs (Yes/No)						
	Bhadrak	Dhenkanal	Kandha-mal	Nabarangpur	Nuapa-da	Puri	Sundargarh
Medicine	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Isolation ward	Yes	Yes	Yes	Yes	No	Yes	Yes
Surgery	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Burn ward	No	No	Yes	No	Yes	Yes	Yes
Ophthalmology	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Orthopedics	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Paediatric	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dental	No	No	Yes	No	Yes	Yes	No
ENT	No	No	Yes	No	Yes	Yes	Yes
Psychiatry	No	No	No	No	Yes	Yes	Yes
Physiotherapy	No	Yes	No	No	Yes	No	Yes
Dialysis service	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Accident & trauma care ward	Yes	Yes	No	No	No	No	Yes
Indoor TB patients	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geriatric ward	No	No	No	No	Yes	No	Yes
Skin and VD	No	No	No	No	No	Yes	Yes

(Source: Data provided by the test-checked DHHs and Joint Physical Inspection)

Audit observed that:

- Essential IPD services, such as Burns Ward, Accident and Trauma Care, ENT, Skin and VD, *etc*., were not available in three to five DHHs, due to non-availability of infrastructure and human resources.
- Burn patients were being treated in the General Wards (Medicine and Surgery) in three DHHs[45], since there was no provision for a separate Burns Ward, resulting in a significantly high risk of cross-infection, for such vulnerable patients.

[45] Bhadrak, Dhenkanal and Nabarangpur

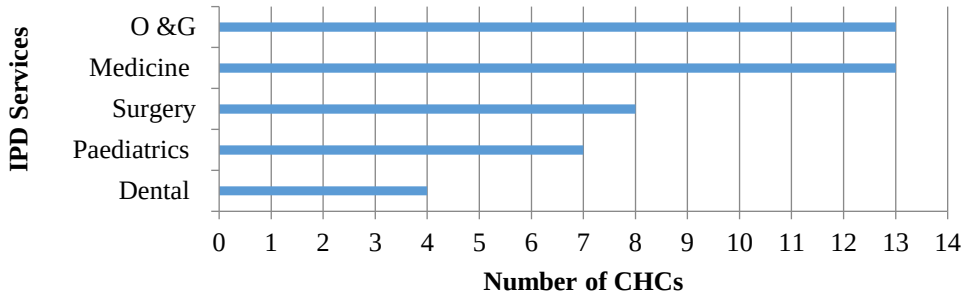
- Out of the test-checked DHHs, the DHHs at Bhadrak, Dhenkanal and Nabarangpur, were most deficient, in terms of having essential IPD services.
    - The DHHs at Bhadrak and Dhenkanal lacked IPD services for ENT, Dental, Skin and VD.
    - DHH, Nabarangpur, lacked Accident and Trauma care, Skin and VD, ENT and Dental services.

Availability of major IPD services in all the DHHs, as of March 2022, is given in ***Appendix 3.6***.

3.3.1.2 Community Health Centres (CHCs)

The CHC-wise availability of IPD services is given in ***Appendix 3.7***. Out of the five essential IPD services, to be provisioned, as per IPHS, none were found to be available in all the 14 test-checked CHCs. Availability of the five essential IPD services was found to be deficient in one to 10 test-checked DHHs, as depicted in **Chart 3.3**.

Chart 3.3: Availability of IPD Services in 14 sampled CHCs



(Source: Data furnished by the test-checked CHCs)

Audit observed that:

- Paediatric IPD services were not available in seven CHCs; Surgery IPD services were not available in six CHCs; and 10 CHCs did not have Dental IPD services.

CHC, Barapada did not have any of the essential IPD services, due to absence of specialist doctors.

- Out of all the test-checked CHCs, the CHCs at Khajuriakata, Kuarmunda, Raikia and Sriramchandrapur, were most deficient, in terms of having essential IPD services.
    - The CHCs of Khajuriakata and Raikia, lacked Surgery, Paediatric and Dental services.
    - CHC, Kuarmunda, lacked Surgery and Dental services.
    - CHC, Sriramchandrapur, lacked Paediatric and Dental services.

Thus, IPD services, including specialised health services provided in the DHHs and CHCs, were not in consonance with the norms stipulated in the NHM

Assessor's Guidebook and IPHS. Patients, therefore, had no option, but to approach private or other distant health care facilities, to avail these services.

The H&FW Department assured (February 2023) that steps would be taken to fix the problems, as per IPHS norms.

3.3.2 Bed Occupancy Rate

The Bed Occupancy Rate (BOR)[46] is an indicator of the productivity of the hospital services and is a measure of verifying whether the available infrastructure and processes are adequate for the delivery of healthcare services. As per IPHS, the BOR of the hospitals should be 80 *per cent*. The NITI Aayog Report (2021) for district hospitals, also states that BOR of 80-85 *per cent* is considered ideal, at which a facility is considered to operate most efficiently.

Audit evaluated the BOR of the test-checked DHHs/ MCHs, for the sampled months, and found the following status:

Table 3.8: Bed occupancy rate of the test-checked DHHs/ MCHs

DHH/ MCH	Bed Occupancy Rate (Functional Beds)					Average BOR
	2017-18	2018-19	2019-20	2020-21	2021-22	
Bhadrak	143 (263)	107 (263)	93 (336)	97 (336)	112 (336)	110
Dhenkanal	137 (176)	150 (176)	147 (176)	143 (176)	91 (300)	134
Kandhamal	86 (186)	95 (186)	99 (236)	88 (236)	91 (236)	92
Nabarangpur	70 (166)	58 (252)	61 (252)	77 (252)	70 (252)	67
Nuapada	78 (170)	98 (170)	72 (315)	52 (315)	67 (315)	73
Puri	71 (451)	78 (451)	75 (451)	71 (451)	78 (451)	74
Sundargarh	87 (300)	80 (300)	76 (300)	67 (300)	84 (330)	79
MCH, Baripada	201 (300)	253 (300)	265 (300)	128 (380)	116 (417)	193
MCH, Berhampur	98 (1431)	104 (1431)	125 (1431)	87 (1431)	102 (1601)	103

(Source: Records of the test-checked hospitals)
(Red colour represents high bed occupancy and green denotes low BOR)

During FYs 2017-18 to 2021-22, the average BOR in the three test-checked DHHs (Bhadrak, Dhenkanal and Kandhamal) was higher than the norm of 80-85 *per cent*, indicating that the patient load in these hospitals was high, compared to the existing bed infrastructure.

The average BOR of 110 for DHH, Bhadrak, correlated with the fact of insufficient number of beds in that hospital. The average BOR of 134 for DHH Dhenkanal, was due to the significant lowering in the BOR, from 143 in FY 2020-21 to 91 in FY 2021-22, which, in turn, was due to the increase in the functional bed strength in that hospital, from 176 to 300.

The BORs of both the MCHs were more than the norm of 75 *per cent*, as prescribed in the MSRR. It was maximum in PRM MCH, Baripada (193).

[46] BOR = Total patient bed days in a month*100/ (Total No. of functional beds *days in the month)

Hospitals with high BOR indicate that the patient load is high, in comparison to the existing infrastructure, which can ultimately lead to patients being placed in clinically inappropriate wards/places, and carries a significant risk of hospital-acquired cross infections. It also creates avoidable pressure on healthcare personnel, to free up occupied beds, for other patients who may be perceived to be in higher need, posing risks to good quality care for recuperating patients.

The H&FW Department stated (February 2023) that steps had been taken for augmentation of hospital beds and revamping the public health systems in Odisha.

3.3.3 Availability of patient amenities in IPDs

As per IPHS norms, basic amenities, to be provided in the IPD wards, in DHHs, for the nursing staff and patients, include the following:

- Wards should include a nursing station, doctors' duty room, isolation room, treatment room and nursing store, along with toilets.
- Every bed should have an IV stand, bed side locker, stool for attendants, screens, *etc*.

Audit observed that, although these amenities had been provided in the seven test-checked DHHs, the following severe deficiencies existed:

- At DHH, Bhadrak, separate wards for male and female patients, as required under IPHS, were not available in Surgery IPDs, resulting in lack of privacy for patients.

Male and female patients accommodated in the surgery ward at DHH, Bhadrak (5 May 2022)

- At DHH, Sundargarh, only two toilets were available in the Obstetrics and Gynaecology (O&G) Ward, which was functioning with 44 beds, against the requirement of one closet/ latrine for six IPD beds, as per IPHS.
- Adequate numbers of bed side lockers, saline stands, window screens and bed-side screens, which were necessary for the privacy of the patients, had not been provided, in any of the test-checked DHHs.

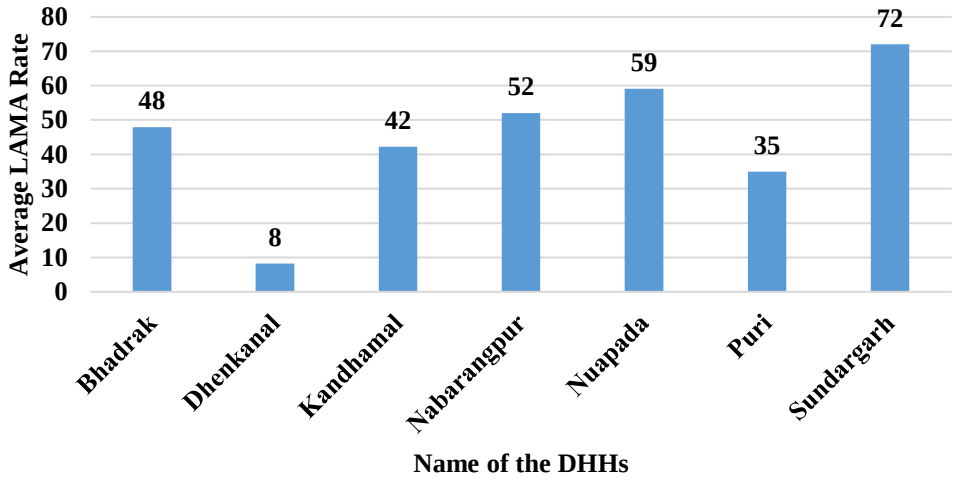
Thus, patient amenities, in the seven test-checked DHHs, were not sufficient, as per IPHS norms.

The H&FW Department stated (February 2023) that steps were being taken for improvement, as per IPHS norms.

3.3.4 LAMA and Absconding Rate

One of the metrics by which the service quality of a hospital may be measured, is the 'Leave against Medical Advice (LAMA) Rate'[47] and 'Absconding Rate'. 'LAMA' is the term used for a patient who leaves the hospital against the advice of the doctor and 'Absconding Rate' refers to the rate at which the patients leave the hospital, without informing the hospital authorities. The average LAMA rate per 1,000 admissions, in the test-checked DHHs, during the period. During FYs 2017-18 to 2021-22, is given in **Chart 3.4**.

Chart 3.4. Average LAMA Rate in the test-checked DHHs



(Source: Data obtained from the test-checked DHHs)

The average LAMA rate, in two of the seven test-checked DHHs (Nuapada and Sundargarh), was higher than the other five DHHs. The high LAMA incidence in these hospitals indicated that IPD service quality was not adequate, in terms of retaining the trust of the patients, regarding the levels of healthcare being provided therein.

None of the seven DHHs had maintained records for absconding patients, due to which, the reasons for their having left these hospitals, without informing the hospital authorities, could not be analysed.

Audit, however, observed that, against 9,14,402 patients, admitted during FYs 2017-18 to 2021-22, in four[48] of the test-checked DHHs, 8,32,087 patients had been discharged, or had been referred out, or had left the hospital against medical advice, or had expired. However, the DHHs had not maintained any details about the remaining 82,315 (9 *per cent*) patients, indicating that they had left the hospital without informing hospital staff, *i.e.* they had absconded.

[47] Total LAMA cases * 1000/ Total admissions in the month
[48] Bhadrak; Dhenkanal; Kandhamal; Sundargarh

The high LAMA incidence in these hospitals indicated that IPD service quality may not have been adequate in terms of retaining the trust of the patients, regarding the levels of healthcare being provided therein. The high absconding rate indicated the deficiencies in controls to monitor patients who had been admitted but then left without informing the doctors.

The H&FW Department stated (February 2023) that OeHMIS[49] work was under progress to digitise the detailed information of patients.

Recommendation 3.1:

Hospitals may maintain records for absconding cases and analyse the reasons of absconding, and take appropriate action for addressing the shortcomings for delivering quality healthcare service to patients.

3.4 Availability of line/ support services

In regard to IPHS and other guidelines, line services *viz*., OPD services, IPD services, ICU services, OT services, maternity services, *etc*., and support services *viz*., imaging/ pathology services, blood bank services, diet management, ambulance services, *etc*. were to be provided in district hospitals. While deficiencies noticed in delivery of OPD and IPD services have been discussed in preceding paragraphs, availability of other services in the DHHs of the State, is given in ***Appendix 3.8***. Audit observations on delivery of quality healthcare services in public health facilities are discussed in succeeding paragraphs.

3.4.1 Emergency and Trauma care services

The goal of emergency services is to provide treatment to those in need of urgent medical care, with the purpose of satisfactorily treating the ailment, or referring the patient to a more suitably equipped medical facility. In particular, the first hour, called the "Golden hour", is critical for patients requiring emergency services.

3.4.1.1 Emergency/ casualty service

As per IPHS, 24x7 operational emergency services with a dedicated emergency room, is required to be available, with adequate manpower. The emergency room should have a mobile X-ray/laboratory, side labs/plaster room and minor OT facilities. In addition, separate emergency beds may be provided. Audit noticed, in this regard, that there was a serious dearth of emergency services in the DHHs and MCHs.

District Headquarter Hospital

In all the test-checked DHHs, although 24x7 emergency services (Casualty/ stabilisation unit) were available, they were not equipped with mobile X-ray/ laboratory services, OT facilities and emergency beds and did not have separate manpower. No details, regarding the patients admitted in the emergency department, referral cases, *etc*., were available with the DHHs.

[49] Odisha e-Hospital Management Information System

Medical College Hospitals

As required under Minimum Standard Requirements Regulations (MSRR), though the two test-checked MCHs had ICUs, there were no Neonatal ICUs and ICU for Tuberculosis and Respiratory diseases, in the Casualty department.

- PRM MCH, Baripada, had no dedicated Casualty Medical Officers (MOs), although MSRR envisages four MOs in the department. The MOs of the DHH, Baripada, were deployed in the Central Casualty department. In MKCG MCH, two casualty MOs were available, against the sanctioned strength of four.
- There were shortages of 17 and 12 essential items of equipment, in the Casualty departments of PRM MCH and MKCG MCH, respectively, as detailed in ***Appendix 3.9***. Equipment like Sonography machine, emergency X-ray (fixed and mobile), Defibrillators to restore normal heart beat, Tourniquet to stop life-threatening external bleeding, *etc*., were not available in these two MCHs.

The H&FW Department stated (February 2023) that steps would be taken to provide equipment to MKCG MCH, and the casualty MOs in the PRM MCH were being managed by the Assistant Surgeons of the hospitals, as the MCH had no approval for dedicated MOs.

3.4.1.2 Accident and Trauma care services

Trauma Care Centres (TCCs)[50] were to be established, to provide intensive medical services at the places nearest to the victims, during highway accidents, to utilise the golden hours of treatment. As per orders (November 2017) of the Hon'ble Supreme Court, at least one TCC should be established in each district, with necessary facilities.

As per the data made available to Audit, by the Director of Medical Education and Training (DMET), Odisha, TCCs were available in all the DHHs. In the test-checked DHHs, Audit, however, noticed that:

- TCCs were not available in four (Kandhamal, Nabarangpur, Nuapada and Puri) of the seven test-checked DHHs. Resultantly, the trauma patients requiring intensive medical services had to be referred/ transported to tertiary care/trauma centres, located at distant places. Thus, treating the critical patients requiring emergency services, within the golden hour, was not possible.
- TCCs available in three of the test-checked DHHs (Bhadrak, Dhenkanal and Sundargarh) had severe deficiencies in their functioning, as discussed below:

[50] As per the Operational Guidelines issued by the Government of India for developing trauma care facilities, (i) **Level I TCC** facilities provide the highest level of definitive and comprehensive care for patients with complex injuries. These should be available in tertiary care centers, to which patients requiring highly specialised medical care, are referred. (ii) **Level II TCC** facilities provide definitive care for severe trauma patients and are required to be available in the existing MCHs or hospitals with bed strengths of 300 to 500. (iii) **Level III TCC** facilities provide initial evaluation and stabilisation (surgically, if appropriate) to the trauma patients. District hospitals, with a bed capacity of 100 to 200 beds, are to be selected for level III care

- **TCC, Bhadrak:** The ICU for the TCC was not functional, due to the absence of Anaesthetists. The patients admitted in the TCC had availed treatment of minor nature. Major cases were being referred to the SCB MCH, Cuttack, which is about 100 kms away from Bhadrak, thus risking the lives of the victims. During 2021-22, about 25 *per cent* of the patients admitted in the TCC were referred to higher facilities. Equipment such as ventilators, ECG machine, ultrasound machines, *etc*., valued ₹60.86 lakh, were lying idle, due to improper functioning of the TCC.


Beds and Ventilators lying idle due to non-functioning of ICU at TCC, Bhadrak (5 April 2022)

- **TCC, Sundargarh:** No dedicated TCC was available in the DHH. During JPI conducted (July 2022) by Audit with hospital staff, one five bedded Emergency ICU was found to have been functioning at the DHH, from 10 November 2021 onwards. There was no dedicated manpower for the TCC.

Idle ICU ventilators at DHH, Dhenkanal (29 April 2022)

- **TCC, Dhenkanal**: No separate TCC was functioning in the DHH. Only one Trauma Stabilisation Unit was available, with three HDU beds. There was no ICU facility. Five ventilators, received (13 February 2021) from OSMCL, were lying idle in the storeroom of the hospital. Dedicated human resources, for functioning of the TCC, were also not provisioned.

Thus, TCCs were either not available, or they had not been equipped with the required manpower and infrastructure. Even the data/information available with the DMET, regarding availability of TCCs in all the DHHs, was also not correct, indicating inadequate supervision/ monitoring. Non-availability of TCCs, coupled with inefficient accident and emergency services, put the life of accident victims at stake, as 29,720 people[51] in the State had lost their lives in road accidents, during 2016-2021. The death rate (46) *per* 100 accidents, in the State, in 2021, was also higher than the national average of 39.

[51] As per data provided by the State Transport Authority, Odisha

The H&FW Department stated (February 2023) that TCCs had been identified in 55 places across the State, covering all districts, and only stabilisation units were functional in the DHHs. It further added that the Government was taking steps to post specialists in these units on priority basis. The fact, however, remained that TCCs had not been established in many of the districts, despite orders of the Hon'ble Supreme Court, for saving the life of the victims.

3.4.2 Trauma care services in the test-checked MCHs

- **PRM MCH, Baripada**: The H&FW Department had declared (October 2018) a level-II TCC at PRM MCH. The required infrastructure and manpower had, however, not been provided (May 2022) for functioning of the level-II TCC at PRM MCH. The trauma patients were being treated in the existing Casualty/ Orthopaedic/ Surgery departments of the hospital. It was further noticed that 20 ICU ventilators and 24 monitors, valued at ₹3.04 crore, were lying idle, due to non-availability of infrastructure and manpower.
- **MKCG MCH, Berhampur:** The H&FW Department notified (October 2018) the TCC at the MCH as a Level-I TCC. The TCC, however, lacked infrastructure, manpower, equipment, *etc*. compared to the norms prescribed under the Operational Guidelines for Trauma Care facilities, issued by the Government of India.
    - Against the requirement of 30 beds (ICU:10 and General:20) and four operation theatres (OT), for a Level-I TCC, only 12 general beds and one OT existed. No ICU facility was available.
    - Against the requirement of 91 items of critical equipment, for a Level-I TCC, only 39 (43 *per cent*) were available. Rehabilitation equipment (Interferential Therapy machine, Cervical and Lumbar Traction and Physiotherapy equipment) were unavailable, while there was 64 *per cent* shortage of anaesthesia equipment in the TCC.
    - As per the norms applicable for a Level-I TCC, 237 staff, including specialists, doctors, nurses and other paramedical staff, were required for the TCC. Against this, only 20 (Staff Nurse: 18 and Laboratory Technicians: 2) had been posted. No specialist or doctor had been posted in the TCC.

Thus, the TCCs, in the test-checked MCHs, were not adequately equipped, for providing urgent and critical medical service, to trauma patients. It was noticed that the patients treated in the TCC at MKCG MCH, Berhampur, had been referred from the Casualty and other departments of the MCH. Thus, the objective of treating the trauma patient/accident victims within the golden hour, was largely defeated.

The H&FW Department stated (February 2023) that the TCCs had been functioning, being integrated with the existing faculty. The fact, however, remained that the TCCs in the MCHs lacked required infrastructure and manpower for treating the trauma patients.

Recommendation 3.2:

State Government may draw up an action plan to prioritise the provisioning of most essential healthcare services such as emergency, trauma care services, etc. It may adopt and implement IPHS norms fully, in provisioning OPD, IPD and Emergency services, ensuring availability of essential equipment and human resources.

3.4.3 Intensive Care Units

IPHS guidelines provide that each DHH should have an Intensive Care Unit (ICU), to attend to critically ill patients, like major medical and surgical cases, cases of head injuries, severe haemorrhages, *etc*. Patients in ICU require highly skilled lifesaving medical aid and nursing care.

Audit noticed that, at the State level, 17 (53 *per cent*), out of the 32 DHHs, did not have ICUs. In the seven test-checked DHHs, ICUs were not available in four DHHs (Bhadrak, Dhenkanal, Kandhamal and Sundargarh). Due to non-availability of ICU facilities in the DHHs, the critically ill patients of the districts, had to be referred to far away tertiary care facilities.

The ICUs available in the remaining three test-checked DHHs (Nuapada, Nabarangpur and Puri) were found to be deficient in manpower and equipment, as shown in **Table 3.9**.

Table 3.9: Availability of beds and equipment in ICUs

DHH	Number of beds available	Staff nurse		Major Equipment not available
		Requirement [52]	Availability	
Nabarangpur	16	48	3	Deep vein Thrombosis prevention device and Ultrasound machine
Nuapada	6	18	5	Deep vein Thrombosis prevention device and Ultrasound machine
Puri	6	18	8	Deep vein Thrombosis prevention device

(Source: Data furnished by the DHHs)

Audit observed that the ICU at DHH, Nuapada, had been non-functional since April 2020, despite availability of infrastructure.

Audit also noticed the following instances of shortage of key equipment in ICUs, in the test-checked DHHs:

- Shortage of one Ventilator at DHH, Puri.
- Non-functional Arterial Blood Gas (ABG) Analyser at DHH, Nabarangpur.

Non-functional ICU at DHH, Nuapada (24 June 2022)

[52] As per IPHS, one nurse per bed per shift, *e.g.*, 18 nurses are required for 6 beds in three shifts

- Shortage of two high end monitors at DHH, Nabarangpur.

ICU beds were not available in any of the hospitals of the Kandhamal and Dhenkanal Districts, including private hospitals. In Bhadrak, only one ICU bed (one private hospital) was available in the entire District.

Thus, the State had not met the norms of the IPHS, in terms of providing ICU services in all the DHHs. In the absence of adequate ICU services in DHHs, patients were referred to far away tertiary care hospitals, which eventually increased the patient load in the tertiary care hospitals.

The H&FW Department stated (February 2023) that a detailed roadmap had been prepared to meet the IPHS norms.

3.4.3.1 ICU service in MCHs

Audit noticed that, while the 25-bedded ICU in PRM MCH and 63-bedded ICU in MKCG MCH, were functional, they were running with an acute shortage of staff nurses. The shortage of staff nurses was 64 *per cent* in PRM MCH, whereas, it was 21 *per cent* in MKCG MCH.

Audit further observed that the additional ICUs, created during November 2018 to August 2021, were not functional, in both the test-checked MCHs.

- Infrastructure for one 30-bedded ICU had been created (August 2021) in the PRM MCH, Baripada, at an expenditure of ₹2.49 crore, with the provision of an oxygen supply pipeline, to combat the second wave of the Covid-19 pandemic. The Superintendent of the MCH had requested (June 2021) the Managing Director, OSMCL, for supply of 25 items of essential life-saving equipment, for the newly constructed ICU. Due to non-supply of required equipment by the OSMCL, the newly created ICU unit had not been made functional (as of August 2022), rendering the expenditure of ₹2.49 crore, futile.
- The Super-specialty Block (G+5) at MKCG MCH, had been constructed (November 2018), at a cost of ₹65.95 crore, under the Pradhan Mantri Swasthya Surakshaya Yojana (PMSSY) - Phase III, to function as a Centre of Excellence, in different areas like Oncology, Nephrology, Neurology, Burns, Plastic Surgery and Cardiology, *etc*. The 54-bedded ICU was a part of the Super-specialty Block. During JPI (July 2022), it was found that the 54-bedded ICU had not been made functional since November 2018 and equipment/ instruments like motorised beds, multipara monitors, ventilators, *etc*., were lying idle, in the ICU since the date of receipt (December 2018 - October 2020). Non-functioning of the ICU was attributed to the shortages of staff.

Idling of motorised ICU Beds, ventilators, *etc*., due to non-functioning of 54 bedded ICU at MKCG MCH, Berhampur (July 2022)

This was indicative of inadequate/ineffective action, by the concerned MCHs, towards functionalising the created infrastructure.

The H&FW Department stated (February 2023) that steps were being taken to provide manpower for ICU services in MKCG MCH.

Recommendation 3.3:

State Government may ensure availability of round-the-clock accident and trauma care services, along with functional ICU facilities, for critically ill patients, requiring highly skilled lifesaving medical aid.

3.5 Maternity service

Maternal health refers to the health of women during pregnancy, childbirth and the postnatal period. Maternal Mortality Ratio (MMR), Neo-natal Mortality Rate (NMR) and Infant Mortality Rate (IMR) are important indicators for the quality of maternity services available. Although significant improvement had been made in these areas during past years, the State had not yet achieved its own target set for 2020, in the '*Odisha State Strategy for reduction of Maternal and Infant Mortality Rate'*, and its position remained below the national average, on these health indicators, as shown in **Table 3.10**.

Table 3.10: Health indicators of the State vis-à-vis national average

Indicators	Goals set in the Odisha State Strategy for 2020	State average	National average
Maternal Mortality Ratio	117	136	103
Infant Mortality Rate	30	36.3	35.2
Neo-natal Mortality Rate	23	27	24.9

(Source: Sample Registration System 2019, National Family Health Survey Reports and State strategy guidelines)

Audit analysed the Health Management Information System data for the test-checked districts and noticed that:

- The goal for reducing the MMR to 117, by 2020, had not been achieved in three of the seven test-checked districts (Kandhamal: 119.58, Nuapada: 174.23 and Puri: 121.05), at the end of FY 2021-22. The other four test-checked districts had, however, achieved the goal, as the MMR of these districts remained between 30.29 and 103.87 during FY 2021-22.

- In Nuapada district, the NMR stood at 32.42 *per* 1000 live births during FY 2021-22, against the target of 23 set for 2020.
- In all the seven test-checked DHHs, the still birth rate[53] (Range: 10.13 to 61.11) had remained above the State average (8). The SBR in three of the seven test-checked DHHs (Bhadrak, Dhenkanal and Kandhamal) had increased in FY 2021-22, compared to the rate in FY 2017-18. High still birth rate indicates a material risk of inadequately managed antenatal care and deliveries, in the concerned hospitals.

Maternity services and the related health indicators are impacted by the quality of major facility-based maternity services, such as Antenatal care, Intra-partum care or delivery care and Postnatal care. It was noticed that maternity services were available in all the DHHs of the State. Availability of maternal and child care services along with the status of availability of hospital beds for maternity services is shown in ***Appendix 3.10*****.** Scrutiny of records in the test-checked hospitals, however, disclosed serious deficiencies in resource management and clinical efficiency, as discussed in the succeeding paragraphs.

3.5.1 Antenatal Care

Antenatal Care (ANC) is the systemic supervision of women during pregnancy, to monitor the progress of foetal growth and to ascertain the well-being of the mother and the foetus. ANC Guidelines stipulate that a pregnant woman (PW) is to receive at least four[54] ANC check-ups. PW are also to be provided with Calcium tablets and IFA[55] supplementation, which helps in preventing complications due to anaemia, during the ANC period.

Audit observed that:

- Only 29.84 lakh (82 *per cent*), out of 36.17 lakh PW, registered during FYs 2017-18 to 2021-22, had received four or more ANC check-ups in the State. Thus, 18 *per cent* PWs had not received minimum ANC care and had remained outside the scope of identification of high-risk pregnancy complications and subsequent referral to appropriate facilities.
- Among the test-checked districts, the ANC check-up rate was 77 *per cent* in the Sundargarh district, while it was 81 *per cent* in the Kandhamal district.
- There was shortfall in administration of IFA and Calcium tablets in the test-checked districts. Out of 8.21 lakh PW, registered in the test-checked districts during FYs 2017-18 to 2021-22, 1.14 lakh (14 *per cent*) had not received all 180 IFA tablets, whereas 3.61 lakh (44 *per cent*) PWs had not been given all 360 calcium tablets.

Thus, ANC intervention, for management of pregnancy complications in the State, was not adequate, as compared to the State Government's norms.

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[53] Ratio of number of still births (baby dies after 28 weeks of pregnancy, but before or during birth) per 1,000 of the total births in a year

[54] 1st visit: Within 12 weeks; 2nd visit: between 14 and 26 weeks; 3rd visit: between 28 and 34 weeks; 4th visit: between 36 weeks and term

[55] 180 Iron and Folic Acid tablets and 360 calcium tablets, to be provided to pregnant woman, as mentioned in the Health Management Information System/ NHM training manual

The H&FW Department stated (February 2023) that the State was taking all steps to increase the coverage of four or more ANC by strengthening Village Health Sanitation Nutrition Day and Urban Health Sanitation Nutrition Day, which would improve the scope of identification of high risk pregnancies and ensuring appropriate referral.

3.5.1.1 Intra-partum/ delivery care

Intra-partum Care (IPC) includes care of pregnant woman during the intra-partum period[56]. Proper care during labour is expected to save not only mothers and their newborn babies, but also to prevent still births, neonatal deaths and other complications. The quality of IPC is largely affected by the availability of essential resources and the clinical efficiency of the medical and paramedical staff. Specific audit observations on IPC are discussed in the succeeding paragraphs.

3.5.2 Clinical efficiency

3.5.2.1 Monitoring the progress of labour, foetal and maternal conditions

The overall quality of care provided by health facilities, during labour, is monitored through the maintenance of partographs, as envisaged in the MNH Toolkit, 2013. A partograph is a graphic representation of the progress of labour, which enables the birth attendant to identify and manage the complications of labour, or to take a decision to refer the patient to a higher medical facility, if required, for further management.

District Headquarter Hospitals

- Partographs had not been plotted for all delivery cases in the hospitals. Maintenance of partographs, in the test-checked DHHs, during the sampled weeks/ months, ranged between 13 *per cent* and 92 *per cent*, during FYs 2017-18 to 2021-22, on an average.
- Partograph maintenance was below 50 *per cent* of the total deliveries in three test-checked DHHs (Bhadrak, Dhenkanal and Sundargarh). The performance of DHH, Dhenkanal, was dismal, with 13 *per cent* maintenance.
- Partograph maintenance of other four DHHs ranged between 62 *per cent* (Nuapada) and 92 *per cent* (Kandhamal).

Community Health Centres

- In 13 of the 14 test-checked CHCs, partographs were maintained for 75 *per cent* of the deliveries made during the sampled months, during the FY 2019-22.
- No partographs were maintained in CHC, Barapada, due to the non-availability of maternity services in the hospital.

Medical College Hospitals

- The average partograph maintenance was 68.79 *per cent* in PRM MCH, while it was 37.71 *per cent* in MKCG MCH.

[56] Time period spanning childbirth, from the onset of labour

- No data on partographs had been maintained, in PRM MCH, during FY 2017-18.

Non-preparation of partographs for all deliveries in the facilities, compromised the ability of the hospitals to measure and seek improvement in the quality of services in their labour rooms, to reduce the chances of adverse pregnancy outcomes.

The H&FW Department stated (February 2023) that the nursing officers and doctors had been provided specific training, such as skill attendance of birth, Dakshata, *etc.*, for refreshing the knowledge and skill related to intra partum care. The fact, however, remains that maintenance of partographs was poor in the hospitals, despite trainings imparted to the clinical staff.

3.5.2.2 Management of pre-term delivery

As per NHM Guidelines, pre-term babies[57] have numerous challenges, including difficulty in feeding, maintaining body temperature and increased susceptibility to infections. These complications can be largely prevented by administering Corticosteroids (Betamethasone Phosphate/ Dexamethasone) injections to the woman, as soon as she is diagnosed with preterm labour.

Audit noticed that data relating to pre-term delivery had not been uniformly maintained/ available for the sampled months. Audit analysed the data for the sampled months of three years (FYs 2018-19 to 2021-22) and observed the following:

District Headquarter Hospitals

- Only 258 (33.42 *per cent*) out of 772 women, recorded for preterm deliveries, in the six test-checked DHHs, had been administered Corticosteroid injections, for safe delivery.
- Records relating to the administration of this injection, were not available in DHH, Dhenkanal.

Community Health Centres

- Pre-term deliveries had not been recorded in two of the test-checked CHCs (Barapada and Basudevpur).
- Corticosteroid injections had been administered to women in only three of the test-checked CHCs (Tikabali, Kosagumuda and Papadahandi).
- Corticosteroid injections had not been administered to mothers in nine of the test-checked CHCs, though preterm deliveries were recorded.

Thus, a newborn baby, delivered through pre-term labour, remained at risk of serious post-natal complications, apart from neonatal deaths, due to non-administration of Corticosteroid to the mother.

The H&FW Department stated (February 2023) that administration of corticosteroid medicine had been improved during 2022-23. It further added that regular monitoring, supply of drugs and enhancing knowledge and skill of the providers were being done by the district and State level monitors, for improving the position.

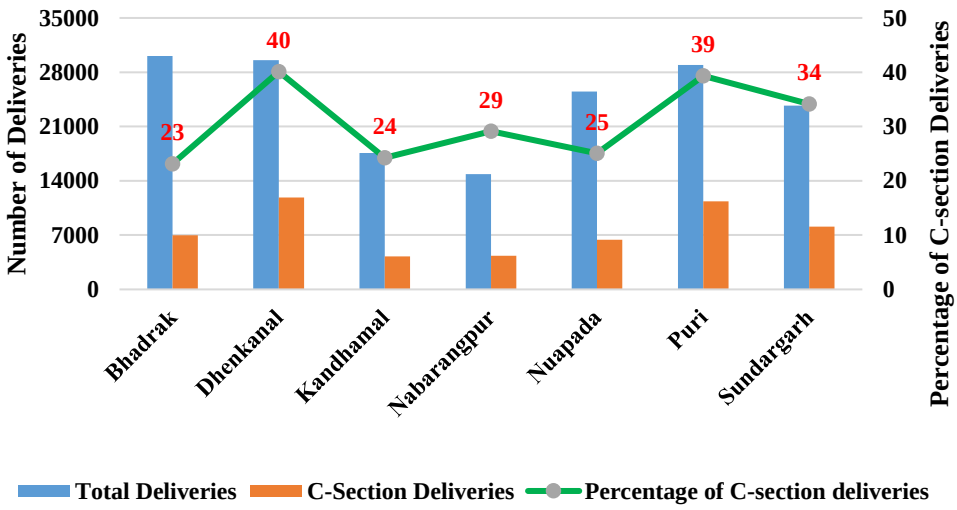
[57] Babies born before the completion of 34 weeks of pregnancy

3.5.2.3 Caesarean deliveries (C-Sections)

The MNH Toolkit designated all DHHs/ Sub-Divisional Hospitals/ First Referral Units (FRUs), *i.e.* CHCs, as centres for providing surgical (C-Section) services, with the provision of specialised human resources (gynecologist/ obstetrician and anesthetist) and equipped operation theatres, to provide Emergency Obstetric Care (EmOC) to pregnant women. The *Janani Shishu Suraksha Karyakram* (JSSK)[58] entitles all pregnant women to free institutional delivery, including C-section deliveries, with a provision for free drugs, consumables, diagnostics, diet, blood, *etc.*

Audit observed that C-section deliveries (53,268), in the test-checked DHHs, accounted for 31 *per cent* of the total deliveries (1,70,229) conducted during FYs 2017-18 to 2021-22. The overall percentage of C-section deliveries compared to total deliveries conducted in the test-checked DHHs during the period 2017-22, ranged between 23 *per cent* and 40 *per cent* as depicted in **Chart 3.5**.

Chart 3.5: Percentage of C-Section deliveries compared to total deliveries in the test-checked DHHs



(Source: Data obtained from the test-checked DHHs and Health Management Information System)

It was noticed that:

- C-section deliveries conducted in the DHH, Bhadrak was minimum compared to other test-checked DHHs.
- In the 14 test-checked CHCs, C-sections were conducted only in three[59] hospitals. Absence of manpower and blood storage units contributed to non-conducting of C-sections in CHCs.

Thus, intermittent/non-availability of C-section services in FRUs/CHCs, coupled with insufficient availability of resources, put the pregnant women residing in rural areas, at risk of pregnancy complications, impelling them to approach DHHs/ private hospitals for C-sections, when required. Therefore,

[58] Expenses related to all deliveries in a public institution would be borne by the Government and no user charges would be levied including free transport facilities

[59] Basudevpur, Nimapara, Papadahandi

DHHs became over-burdened, in the absence of adequate resources for catering to their usual footfall, along with the additional patient load coming from the CHCs.

The H&FW Department stated (February 2023) that out of the 14 test checked CHCs, seven were First Referral Units, being eligible for conducting C-section services. Out of these seven CHCs, four were providing C-section service and other three lacked manpower for the service, and Government was posting the manpower, regularly.

3.5.3 Post-natal care

The first 48 hours after delivery are the most critical, in the entire post-partum period, for survival of both the mother and her newborn. Most of the major complications of the post-partum period, such as Post Partum Hemorrhage (PPH) and Eclampsia, which can lead to maternal death, occur during this period[60]. Hence, the mother requires close monitoring during the first 48 hours of delivery. It is, therefore, important that the mother stays in the health facility for a minimum of 48 hours.

Audit, however, observed that, in a large number of cases, the mothers and babies had been discharged from hospitals within 48 hours of delivery. In the test-checked DHHs, out of 2,04,722 deliveries, during 2016-22, 73,743 (36 *per cent*) mothers had been discharged within 48 hours of delivery.

The discharge rate within 48 hours, was maximum in the DHHs of Nabarangpur (78 *per cent*), Dhenkanal (59 *per cent*) and Bhadrak (51 *per cent*), compared to other DHHs.

In the test-checked MCHs, the percentage of discharge of mother and baby, within 48 hours of delivery, ranged from 61 to 66 *per cent*, in PRM MCH, during FYs 2018-19 to 2021-22, while it ranged from 39 to 52 *per cent* in MKCG MCH, during the period 2016-22.

Thus, mothers and newborns were not retained in the hospitals, for the prescribed minimum period of 48 hours after delivery, for management of post-natal complicacies, to reduce adverse delivery outcomes.

The H&FW Department stated (February 2023) that for ensuring 48 hours stay after delivery, the MCHs were being used, and regular review and monitoring of the indicator was being done at the State and district level also.

3.5.3.1 Special Newborn Care

As per IPHS guidelines, each district hospital should have a Special New-born Care Unit (SNCU). The SNCU is primarily intended to reduce cases of fatality among sick children, born within the hospital or outside, (including home deliveries), within the first 28 days of life. Each SNCU should have at least 12 beds, to cater to the sickest children in the hospital. Therefore, an SNCU plays a vital role in post natal care. The number of sick newborn children, admitted in the SNCUs of the test-checked district hospitals, during 2016-22, is given in **Table 3.11**.

[60] Guidelines for Antenatal Care and Skilled Attendance at Birth (NHM)

Table 3.11: Number of neonates admitted, discharged and referred to SNCUs

DHH	No. of Neonates admitted	Neonates discharged	Neonates referred (*per cent*)	Death cases of Neonates in SNCUs	LAMA Cases
Bhadrak	12,750	9,535	2,438 (*19*)	541	230
Dhenkanal	2,988	2,214	6,00 (*20*)	68	89
Kandhamal	6,723	6,102	NA	621	NA
Nabarangpur	3,841	2,976	466 (*12*)	337	59
Nuapada	7,425	6,637	NA	788	NA
Puri	8,542	7,043	1,042(*12*)	335	122
Sundargarh	5,828	4,180	1,267 (*22*)	296	88
Total	**48,097**	**38,687**	**5,813 (*12*)**	**2,986 (6.20)**	**588**

(Source: Records of the test-checked DHHs and HMIS)

Audit noted that:

- 12 *per cent* of the neonates, admitted in five test-checked DHHs, were referred to higher facilities.
- Neonatal death cases in the SNCUs accounted for 6.20 *per cent* of the total admission cases.
- Records relating to the referral of neonates were not maintained at DHHs of Kandhamal and Nuapada. No details were provided by the DHH, Nabarangpur, in this regard, for the period 2016-19.

Further, the SNCUs of the test-checked DHHs were not well-equipped with the required infrastructure, manpower, equipment, *etc*., as discussed in the ***Paragraphs 5.1.4.1, 5.1.5.1*** and ***5.1.7.3***.

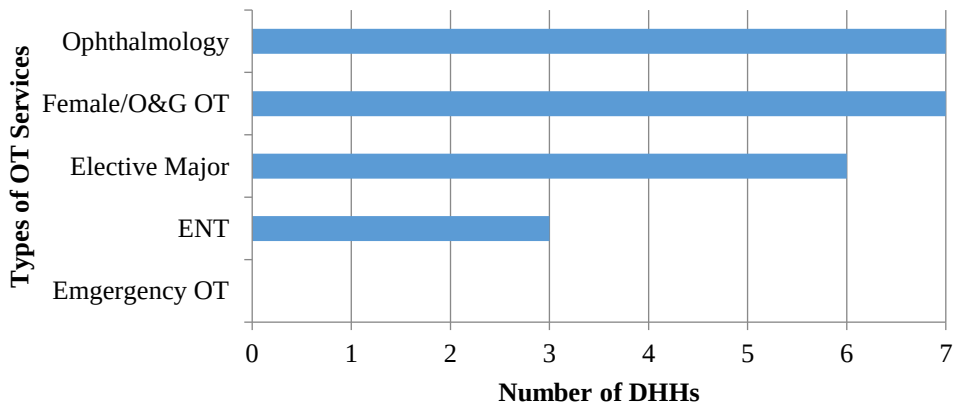
3.6 Operation Theatre Services

3.6.1 Operation Theatre Services in the test-checked DHHs/ CHCs

An Operation Theatre (OT) is an essential service in District Hospitals. IPHS guidelines prescribe OTs for elective major surgery, emergency services/ female ward and ophthalmology/ ENT (ear, nose and throat), for district hospitals having a bed strength of 101 to 500.

Availability of OT services, in the test-checked DHHs, as of March 2022, is given in **Chart 3.6**.

Chart 3.6: Availability of OT services in the seven test-checked DHHs



(Source: Data furnished by the test-checked DHHs and JPI)

Audit observed deficiencies in the availability of OTs, in the test-checked DHHs and CHCs, as discussed in the succeeding paragraphs.

District Headquarters Hospitals

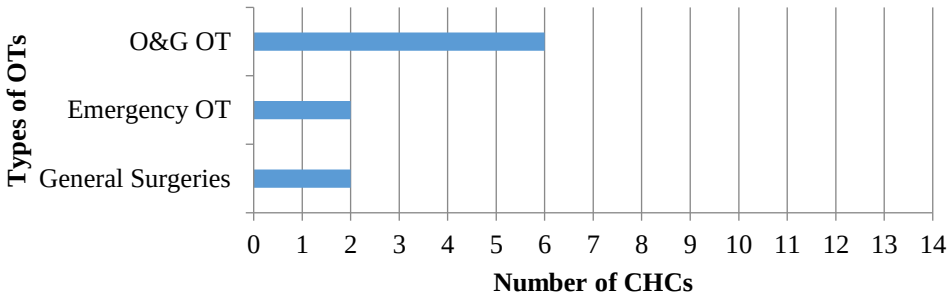
The full range of OT services was not available in any of the test-checked DHHs. The major shortcomings in this regard are mentioned below:

- OTs for emergency services were not available in any of the DHHs. Emergency surgeries were being conducted in other OTs within the hospitals. Thus, surgeries for urgent/ emergency situations were subject to the availability of OTs. DHH, Dhenkanal, had no separate OTs for O&G and elective major[61]. All surgeries, including C-sections, were being conducted in one OT available in the hospital, contributing to the likelihood of delayed surgeries or denial of surgeries in urgent situations.
- DHH, Nabarangpur, had facilities only for the O&G and Ophthalmology OTs.
- OTs for ENT services were not available in the DHHs of Bhadrak, Dhenkanal and Puri. Thus, patients requiring ENT surgeries, in these hospitals, were either being denied the service, or were being referred to other hospitals.

Community Health Centres

The NHM Assessor's guidebook, for quality assurance in CHCs, states that CHCs should have General Surgery, Gynecology and Emergency OTs. The availability of OT services, in the 14 test-checked CHCs, is given in **Chart 3.7**.

Chart 3.7: Availability of OT services in the14 tests-checked CHCs



(Source: Data furnished by the test-checked CHCs)

- Seven[62] of the 14 test-checked CHCs had no OT services. Patients requiring any type of surgery, were either being denied the service or were being referred to other hospitals.
- All the OT services were, however, available only in CHC, Nimapara.

Non-availability of the required OTs would have resulted in denial, to patients, from receiving surgical operations, as part of the treatment process; thereby

[61] Elective surgeries: surgery that is scheduled in advance

[62] Bangurigaon, Barapada, Khajuriakata, Kuarmunda, Lahunipara, Rakia and Sriramchandrapur

driving them to private clinics, or leading to their being referred to higher Government hospitals.

The H&FW Department stated (February 2023) that steps had been taken to follow the IPHS norms.

3.6.1.1 OT services in Medical College Hospitals

MSRR prescribes one OT each, for O&G, General Surgery, Ophthalmology, ENT, Orthopedics and Septic cases.

Audit noticed that, PRM MCH had eight OTs, while MKCG MCH was running with 11 OTs. OTs for septic cases were, however, not available in any of the test-checked MCHs.

The H&FW Department stated (February 2023) that required number of OTs would be made functional after completion of the new building.

3.6.1.2 Surgeries per surgeon

As per NHM Assessor's Guidebook (2013), surgeries performed per surgeon is an indicator to measure efficiency of the hospitals. The average surgeries per surgeon per annum, in the test-checked DHHs during FYs 2016-17 to 2021-22, are shown in ***Appendix 3.11***.

Analysis of data relating to surgeries conducted during FYs 2016-17 to 2021-22 indicated substantial variation in the number of surgeries per surgeon in test-checked DHHs. The details of average surgeries per surgeon per annum conducted during 2021-22, are given in **Table 3.12**.

Table 3.12: Average surgeries per surgeon during 2021-22

DHH	General Surgery	Orthopaedics	Eye
Bhadrak	328	579	62
Dhenkanal	1,223	9	199
Kandhamal	113	62	244
Nabarangpur	893	347	50
Nuapada	75	103	100
Puri	8,398	431	729
Sundargarh	226	7	352

(Source: Data obtained from the test-checked DHHs)

As evident from the above table, the DHHs of Kandhamal and Nuapada had considerably less number of general surgeries performed per surgeon as compared to other test-checked DHHs. Similarly, performance of three DHHs (Dhenkanal, Kandhamal and Sundargarh) in regard to Orthopedic surgeries and average eye surgeries, conducted by two DHHs (Bhadrak and Nabarangpur) was substantially poor in comparison to the other DHHs.

3.6.1.3 Documentation related to OTs

The NHM Assessor's Guidebook prescribes that a surgical safety checklist, pre-surgery evaluation records and post-operative evaluation records, for OTs, should be prepared for each case. The availability of required records, in the seven test-checked DHHs, during FYs 2016-17 to 2021-22, is given in **Table 3.13**.

Table 3.13: Documentation of OT Procedure in the test-checked DHHs

DHH	Surgical safety checklist	Pre-surgery evaluation records	Post-operative evaluation records
Bhadrak	Not maintained	Not maintained	Not maintained
Dhenkanal	Not maintained	Not maintained	Not maintained
Kandhamal	Partially maintained	Not maintained	Not maintained
Nabarangpur	Maintained	Maintained	Maintained
Nuapada	Maintained from 2020-21	Maintained	Maintained
Puri	Maintained	Maintained	Maintained
Sundargarh	Maintained	Maintained	Maintained

(Source: Data furnished by the test-checked DHHs)

The availability of required records, in the seven test-checked CHCs, where OT facility was available during FYs 2016-17 to 2021-22, is given in **Table 3.14.**

Table 3.14: Documentation of OT Procedure in the test-checked CHCs, which had OT facility

CHC	Surgical safety checklist	Pre-surgery evaluation records	Post-operative evaluation records
Basudevpur	Maintained	Maintained	Not maintained
Tikabali	Not maintained	Not maintained	Not maintained
Khariar Road	Not maintained	Not maintained	Not maintained
Komna	Not maintained	Not maintained	Not maintained
Kosagumuda	Maintained	Maintained	Maintained
Papadahandi	Not maintained	Maintained	Maintained
Nimapara	Maintained	Maintained	Maintained

(Source: Data furnished by the test-checked CHCs)

In the absence of a surgical safety checklist, pre-surgery evaluation records and post-operative evaluation records for OTs, it could not be ascertained whether the safety procedures in OTs had been duly adhered to, in the test-checked CHCs.

The H&FW Department stated (February 2023) that steps were being taken to follow IPHS norms.

3.7 Diagnostic Services

Diagnostics are an integral part of the health care system. Efficient and effective diagnostic services, both radiological and pathological, are amongst the most essential health care facilities, for delivering quality treatment, based on accurate diagnosis.

Audit observed that many of the significant radiological and pathological tests were not being performed in the test-checked hospitals, due to lack of required equipment and skilled manpower. Significant audit findings in this regard, are discussed in the succeeding paragraphs.

3.7.1 Radiology Services

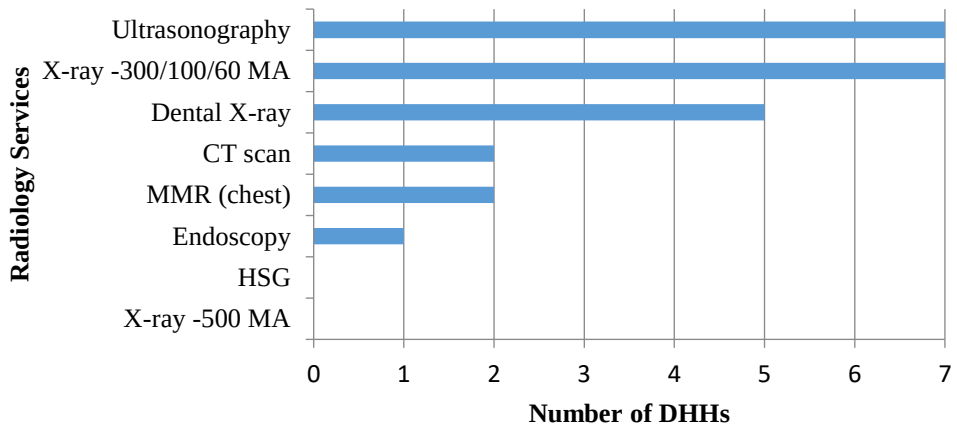
Adequate availability of functional radiology equipment, skilled human resources and consumables, are key requirements, for delivery of quality radiology services.

3.7.1.1 Availability of Radiology Services

The Indian Public Health Standards (IPHS) 2012 prescribe eight types of radiology services for the district hospitals and three types of service for CHCs.

The availability of radiology services, in the test-checked DHHs, is shown in **Chart 3.8**.

Chart 3.8: Availability of Radiology services in the test-checked DHHs

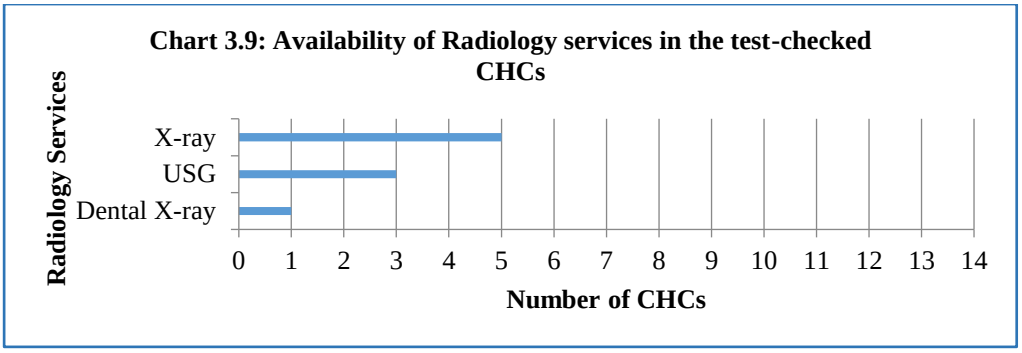


(Source: Data collected from the test-checked DHHs and JPI)

All the eight prescribed Radiology services were not available in any of the test-checked DHHs. Out of the seven test-checked DHHs, the DHHs which were most deficient, in terms of having radiology services, were Bhadrak, Kandhamal and Nuapada.

- Only X-ray and Ultrasonography services, were available in all the seven test-checked DHHs.
- Out of the eight radiology services, only X-ray 300/100 and USG were available in DHH, Nuapada, whereas DHHs, Bhadrak and Kandhamal, had the facility of only X-ray 300/100/60, Dental X-ray and USG.

It was also noticed that the CHCs were deficient in providing radiology services to patients. Out of the three required radiology services in the CHCs, the availability of radiology services, in the test-checked CHCs, is given in **Chart 3.9**.



(Source: Data obtained from the test-checked CHCs)

Audit observed that:

- All the three Radiology services were available only in CHC, Basudevpur, which was the only IPHS compliant CHC, in this regard, among the 14 test-checked CHCs.
- In nine of the test-checked CHCs, the prescribed Radiology services were not available at all, whereas these services were being provided partially in the other four CHCs.
- It was noticed that Radiology services were not being provided in CHC, Kosagumuda, due to non-availability of equipment, although one radiographer had been posted in the hospital.

Radiology services in the hospitals were not fully available, mainly due to non-availability of the required radiology equipment and/or skilled human resources. Absence/ short availability of the full range of radiology services, impacted the levels of care offered in these hospitals. Consequently, patients requiring radiology services had to visit private/other hospitals, for availing the required services.

3.7.1.2 AERB license for radiology machines

As per the Atomic Energy (Radiation Protection) Rules 2004, for establishing an X-ray and CT scan unit, a license from the Atomic Energy Regulatory Board (AERB) is necessary. Contrary to the provisions of the said Rules, AERB licenses, for 11 items of radiology equipment, were not available in seven of the test-checked hospitals, as detailed in **Table 3.15.**

Table 3.15: Radiology equipment, functioning without AERB license

Sl. No.	Hospital	Equipment for which AERB Licenses were not available
1	DHH, Bhadrak	100MA X-ray machine and Dental X-ray machine
2	DHH, Dhenkanal	Dental X-ray Machine
3	DHH, Sundargarh	60 MA X-ray (2 No) and Dental X-ray Machine
4	DHH, Kandhamal	X-ray 300, Dental X-ray
5	CHC, Tikabali	X-ray
6	CHC, Lahunipara	X-ray
7	CHC, Nimapara	X-ray

(Source: Records of the test-checked hospitals)

In the absence of the requisite AERB certificate, the test-checked hospitals not only violated the prescribed regulatory requirements but also compromised the safety of patients and staff, in the Radiology departments of these hospitals.

3.7.1.3 Safety measures and availability of other ancillary facilities

Audit noticed that devices like protective glasses, protective flaps, protective gloves, thyroid shield, protective goggles, gonad shield, *etc.*, as required by AERB, for radiology/ imaging services, were not available in DHH, Bhadrak. Similarly, TLD badges[63] and Pocket dosimeters[64] were not available in the Lahunipara and Kuarmunda CHCs. Non-provision of these protective instruments compromised the safety of the technicians operating the radiology devices.

The H&FW Department stated (February 2023) that steps were being taken to follow the IPHS norms, in regard to availability of radiology services, AERB license for radiology machines, *etc.*

3.7.2 Pathology Services

Pathology services are the backbone of any hospital, for extending evidence based healthcare 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. The related audit observations are discussed in the succeeding paragraphs.

3.7.2.1 Availability of Pathology Services

IPHS prescribes 29 to 70 types of pathological investigations, under five categories, *viz.* Clinical pathology (18 to 29 tests), Pathology (01 to 08 tests), Microbiology (2 to 7 tests), Serology (3 to 07 tests) and Biochemistry (5 to 19 tests), to be carried out in the district-level hospitals and CHCs. Similarly, 11 types of essential laboratory/ diagnostic services are required to be available in the PHCs.

Scrutiny of records showed that the full range of desired pathological investigations was not available in any of the test-checked hospitals. The position of availability of investigation facilities, in the test-checked DHHs/ CHCs, is given in **Table 3.16.**

Table 3.16: Availability of pathological investigations in the test-checked DHHs/ CHCs

Hospital	Investigations available in the test-checked hospitals					
	Clinical pathology (29)	Pathology (8)	Microbiology (7)	Serology (7)	Biochemistry (19)	Total (70) (*Per cent*)
Bhadrak	24	2	5	6	11	48 (*69*)
Dhenkanal	11	1	6	4	7	29 (*41*)
Kandhamal	23	1	5	4	10	43 (*61*)
Nabarangpur	27	8	7	6	15	63 (*90*)
Nuapada	19	5	2	3	10	39(*56*)
Puri	28	1	6	5	12	52(*74*)
Sundargarh	21	0	7	4	10	42 (*60*)

[63] For recording the occupational radiation exposure received by the radiation workers
[64] For evaluation of radiation doses received by the personnel working with radiation sources

Hospital	Investigations available in the test-checked hospitals					
	Clinical pathology (29)	Pathology (8)	Microbiology (7)	Serology (7)	Biochemistry (19)	Total (70) (*Per cent*)
CHCs (Total investigations)	**18**	**1**	**2**	**3**	**5**	**29**
Range of availability in 14 CHCs	5-17	0-1	0-2	0-3	0-5	9-22 (*31-76*)

(Source: Records of the test-checked hospitals)

**** The figures in red colour indicate the total number of investigations required to be conducted in DHHs and CHCs***

Thus, none of the test-checked DHHs was found to have the entire range of the 70 essential diagnostic testing services. On an average, the test-checked DHHs had 41 to 90 *per cent* of the prescribed diagnostic services.

Important investigations, like 'Cytology', to examine the behaviour of cells under microscope; 'bone marrow aspiration', to check the levels of white blood cells/ red blood cells (WBC/RBC)/platelets; Brucellosis, to detect the Brucellosis bacteria *etc*., were not being carried out in most of the test-checked DHHs.

Community Health Centres

The test-checked CHCs had the provisions for only 31 to 76 *per cent* of the prescribed diagnostic testing services. The CHCs at Bangurigaon, Barapada and Sriramchandrapur, were most deficient in the availability of pathological investigation services, ranging between 31 and 45 *per cent* only.

- Out of the 18 pathological investigations, prescribed under IPHS, 17 services were available in CHC, Basudevpur. The other 13 test-checked CHCs had only 5 to 12 pathological services.
- Sputum cytology was not available in 10 out of the 14 test-checked CHCs, with only the CHCs of Rakia, Tikabali, Kosagumuda and Papadahandi, offering the same.
- Microbiology services were not available in the CHCs of Tikabali and Khariar Road.
- Biochemistry was not available in the CHCs of Basudevpur and Bangurigaon.

Primary Health Centres

The test-checked PHCs had been conducting two to seven tests, against 11 essential pathological tests.

- Routine urine, stool and blood tests services, were not available in eight[65] out of the 14 test-checked PHCs.
- Sputum testing for mycobacterium (as per guidelines of RNTCP[66]) was not available in the test-checked PHCs, except for Khuntagaon, Kodinga and Rasol.

[65] Darlimunda; Ertal; Joranda; Khuntagaon; Kodinga; Maidalpur; Sabarang and Tarbod

[66] Revised National Tuberculosis Control Programme to provide diagnosis and treatment, free of cost, to all TB patients

- Blood smear examination for Malaria was available in only two (Fakir Sahi, Ranjabradi) out of the 14 test-checked PHCs.
- Rapid tests for pregnancy were not available in five[67] of the test-checked PHCs.

Medical College Hospitals

- Out of the 72 prescribed pathological tests[68], 14 services were not available in PRM MCH and 12 services were not available in MKCG MCH.
- Immuno-haematology test, to detect antigen in blood and Thalassemia, to check inherited blood disorders, *etc*., were not being done in PRM MCH. Further, Bacteria culture and sensitivity, Leptospirosis, Brucellosis, *etc*., were not being conducted in MKCG MCH, due to non-availability of the required equipment.
- Thyroid test, to check the working of the thyroid gland, was not available in PRM MCH, while Blood gas analysis, Chloride and Iodometry Titration, were not being conducted in MKCG MCH, due to non-availability of equipment and reagents.

Non-availability of essential equipment and short deployment of skilled human resources, in the test-checked hospitals, were amongst the reasons for the absence of the desired investigation facilities. Availability of manpower and equipment for laboratory services, are discussed in ***Paragraph 2.3***, under Chapter 2, and ***Paragraph 4.2.2.2***, under Chapter 4, respectively.

Lack of appropriate diagnostic testing services may adversely affect the treatment outcomes in hospitals. Absence of diagnostic investigations delays treatment procedures and restricts the treatment capacity of medical practitioners.

The H&FW Department stated (February 2023) that steps were being taken to follow IPHS norms.

Recommendation 3.4:
Essential radiology and pathology services, as per IPHS, may be ensured in hospitals, in view of increasing reliance on diagnostics, for treatment of patients.

3.8 Blood Bank Services

Blood Banks/ storage centres are essential for the functioning of any hospital. For ensuring the quality, safety and efficacy of blood and blood products, well equipped blood centres, with adequate infrastructure and trained manpower, are essential requirement.

There were 85 Blood Centres (BCs) in the State, which included 56 BCs in Government health institutions (DHHs/ MCHs), 22 BCs in the private sector and 7 BCs in the public sector, as of March 2022. Audit observed the following deficiencies in the functioning of blood centres, in the test-checked hospitals.

[67] Darlimunda; Ertal; Indragada; Khuntagaon and Tarbod.
[68] As per IPHS, for district hospitals

3.8.1 Blood centres without valid licenses

As per the Drugs and Cosmetics Rules, 1945, the blood centres functioning in the State should have valid licenses from the Drug Controller of India/ Odisha.

It was noticed that, BCs at the six[69] of the nine test-checked DHHs/MCHs, did not have valid licenses from the Drugs Controller. The validity of the licenses issued to these BCs had expired during October 2015 and December 2021 and had not been renewed. These BCs were running without valid licenses from the competent authority, in contravention of the provisions of the Drug and Cosmetics Rules. The BCs at other three test checked hospitals (DHHs of Bhadrak and Sundargarh; MCH, Berhampur) had valid license from the Drug Controller.

The H&FW Department stated (February 2023) that it would inquire into the matter and take appropriate action.

3.8.2 Non-establishment of Blood Component Separation Unit

As per the Guidelines for setting up Blood Storage Centres, 2007, issued by National Aids Control Organisation (NACO), Blood Component Separation Units (BCSUs) are to be established, for separating whole blood into its constituents, such as red blood cells, platelets, plasma, *etc*., for maximum utility of one whole blood unit, as each blood component is used for a different indication.

Audit noticed that BCSUs were not available in any of the test-checked DHHs and MCH, Baripada. Audit observed the following shortcomings in the establishment of BCSUs at MCH, Baripada and DHH, Bhadrak.

- **BCSU at MCH, Baripada**: OSMCL had supplied (August 2016-February 2018) 12 items of equipment, costing ₹43.36 lakh, to the Odisha Blood Centre, at MCH, Baripada, for establishment of the BCSU. One trained lab technician was available to run the BCSU. However, the Drug Controller did not issue the license for functioning of the BCSU, due to shortage of space and absence of a pathologist in the BC. Resultantly, out of the 12 items of equipment supplied by OSMCL, only four were being used, while eight others, costing ₹ 38.83 lakh, remained idle.
- **Non-establishment of BCSU at DHH, Bhadrak**: The Managing Committee (MC) of the Blood Bank of DHH, Bhadrak, decided (September 2017) to form a sub-committee, to assess the requirement of a BCSU at DHH, Bhadrak. This was also emphasized in the next MC meeting (February 2018), and one room was earmarked for the BCSU in the blood bank. It was also suggested that the Director of SBTC, Odisha, be approached, for this purpose. Despite this, no action was taken for establishment of the BCSU, even though the annual collection of blood units in the BC was more than 10,000 units.

Due to lack of planning and initiative of the concerned authorities, BCSUs could not be established, and the benefits of using blood components, instead of whole blood could not availed of.

[69] Dhenkanal; Kandhamal; Nabarangpur; Nuapada; Puri; MCH, Baripada

The H&FW Department stated (February 2023) that the concerned authorities would be instructed to take necessary steps for establishment of BCSUs.

3.9 Support Services

While clinical services are to be provided by the concerned healthcare facilities, some of the support services, such as dietary, laundry, mortuary services, *etc*., are also essential. Some of the support services, available in the test-checked hospitals, are discussed in succeeding paragraphs.

3.9.1 Dietary Services

As per Kayakalp guidelines[70], the quality and quantity of food are the key factors for patient recovery. Thus, high standards of food hygiene should be maintained throughout the delivery of healthcare services. The need for adequate food hygiene facilities, is of paramount importance in the kitchen services of healthcare facilities.

Audit observed that:

- Diet Vigilance Committees (DVC) had not been formed in three of the test-checked DHHs (Dhenkanal, Nabarangpur and Nuapada), for supervising the process of diet preparation and distribution, as required under the Guidelines issued by the NHM, Odisha for diet management in public health institutions. In two DHHs (Kandhamal and Puri), though DVCs were formed, no meetings were held. In DHH, Bhadrak, DVC meetings were being held intermittently.
- Though a DVC was formed (August 2021) in PRM MCH, no meetings were held, while regular meetings were being conducted in MKCG MCH.
- Daily stock registers were not maintained, in regard to kitchen supplies, at DHH, Kandhamal and DHH, Sundargarh, for ensuring supply of diet to all eligible patients.

The H&FW Department stated (February 2023) that steps were being taken to follow IPHS norms.

3.9.2 Laundry Services

As per Kayakalp guidelines, issued by the Ministry of Health and Family Welfare, GoI, the provision of clean linen is a fundamental requirement for patient care. An incorrect procedure, for handling or processing of linen, can pose an infection risk to both staff and patients. The patients' linen, including bed sheets and patient gowns, need to be changed on a daily basis.

Audit observed that the laundry services, in the test-checked hospitals, were not in consonance with the Kayakalp guidelines, as discussed in the subsequent paragraphs.

[70] Guidelines issued (May 2015) by the Ministry of H&FW, GoI for promoting cleanliness, hygiene and infection control practices in public healthcare facilities

3.9.2.1 Availability of linen in the test-checked hospitals

IPHS prescribes 24 types of linen[71] that are required for patient care services, for hospitals with 101 beds and above.

In seven of the test-checked DHHs and two MCHs, Audit observed shortage of different types of linen, such as bedspreads, doctor's overcoats, paediatric mattresses, hospital worker OT coats, mortuary sheets, *etc*. There were shortages of linen, ranging between 3 and 23 items, in the test-checked DHHs. Against the requirement of 24 types of linen, PRM MCH, had only four types, while MKCG MCH had eight types.

Audit noticed the following deficiencies in the availability of linen, in four of the test-checked DHHs (Dhenkanal, Kandhamal, Nuapada and Puri):

- DHH, Nuapada, had only one type of linen, *i.e.* bed sheets. No other types of linen were available.
- DHH, Dhenkanal, had two types of linen (bed sheets and blankets).
- Fifteen out of 24 types of linen were not available in DHH, Kandhamal, while 17 types of linen including blankets, pillows, pillow covers, *etc*., were not available in DHH, Puri.

Thus, none of the DHHs/ MCHs was IPHS compliant, in terms of provisioning of linen for patients and staff, in the hospitals.

3.9.2.2 Infrastructure for laundry services

Audit noticed inadequacies in the availability of infrastructure for laundry services as required under Kayakalp guidelines, as discussed below:

- The laundry service at DHH, Bhadrak, had been outsourced. One of the buildings used for storing washed linen, was in a dilapidated condition (damp), with an unhygienic environment.
- There was no proper provision for drying washed linen, in two of the test-checked DHHs (Bhadrak and Sundargarh). Linen items were being dried on the damp wall of the roof top of the building at DHH, Bhadrak, in unhygienic conditions. In DHH, Sundargarh, linen was being dried inside a room, as well as outside, in an open area, adjacent to the general waste dumping site. Thus, drying of the linen, was not kept off the ground and away from dust exposure, as envisaged in the Kayakalp guidelines.

[71] Abdominal sheets for OT; Bed sheets; Bedspreads; Blankets (Red and Blue); Doctor's overcoats; Draw sheets; Hospital workers' OT coats; Leggings; Mackintosh sheets; Mats (nylon); Mattresses (Foam) for adults; Mortuary sheets; Over-shoe pairs; Paediatric mattresses; Patient's coats (Female); Patient's Pyjamas and Shirts (Male); towels; Perennial sheets for OT; Pillows; Pillow covers; Apron for cook; Curtain cloth for windows and doors; Uniform/Apron and Table cloth

Linen being dried on the rooftop of the laundry building, at DHH, Bhadrak (3 June 2022)

Linen being dried in an open ground, at DHH, Sundargarh (14 July 2022)

- As per the Kayakalpa guidelines, linens should be kept in racks. At the DHHs of Bhadrak, Nabarangpur and Puri, washed linen was being kept on the floor, due to an inadequate number of racks for storage of linen.

Thus, the laundry services, available in the DHHs, were not as per the prescribed norms in regard to providing hygienic and clean linen to patients and staff, thereby exposing them to the risk of infection.

The H&FW Department stated (February 2023) that steps were being taken to follow IPHS norms.

3.9.3 Ambulance Services

As per IPHS, a district hospital is required to have three to four running ambulances, with well-equipped Basic Life Support (BLS), depending on the bed capacity of the hospitals for providing medical assistance during transportation of patients. It is also desirable to have an Advanced Life Support (ALS) ambulance. Further, a dedicated parking space is to be provided separately for ambulances, near the emergency ward. The serviceability and availability of equipment, as well as drugs, in the ambulances, are required to be checked on a daily basis.

Audit observed shortage of ambulances, in three of the seven test-checked DHHs (Bhadrak, Dhenkanal and Nuapada) and in PRM MCH (Baripada), as against the IPHS norms. Details of ambulances, available in the test-checked DHHs, are given in **Table 3.17.**

Table 3.17: Details of ambulances available in the test-checked DHHs

DHHs	Number of beds	Number of ambulances	
		Required (Essential + desirable)	Available
Bhadrak	336	4+1	2
Dhenkanal	300	3+1	2+1

DHHs	Number of beds	Number of ambulances	
		Required (Essential + desirable)	Available
Kandhamal	236	3+1	3
Nabarangpur	252	3+1	3
Nuapada	315	4+1	1
Puri	451	4+1	5+2
Sundargarh	330	4+1	7+2

(Source: Data provided by the DHHs and JPI) (Red colour: Shortage; Green: No shortage)

It would be seen from the above that:

- DHH, Puri, had seven ambulances, against the requirement of five.
- All the ambulances available in the DHHs were of BLS type, except those at DHH, Bhadrak, which were not equipped with BLS/ ALS, as envisaged in IPHS.
- In MCHs, the ambulances were of ALS type, except for two ambulances at MCH, Berhampur, which had no equipment.
- Demarcated areas, for parking of ambulances, were available in six of the seven test-checked DHHs. At DHH, Bhadrak, there was no such demarcated area, due to an acute shortage of space. In the two test-checked MCHs, demarcated areas for parking were also not available.
- In PRM MCH, two Ambulances with ALS (costing ₹51.87 lakh), along with equipment and instruments, were received during April 2021, for providing emergency transportation to patients, but were not put to use and were lying idle, due to non-posting of an Emergency Medical Technician.

Two idle Ambulances at PRM MCH, Baripada (13 May 2022)

For providing ambulance services, drivers and technicians need to be available in the ambulances. It was noticed that, though drivers were available in all the test-checked DHHs, technicians were available only in two DHHs (Dhenkanal and Sundargarh) and one MCH (MKCG MCH, Berhampur). Thus, the available vehicles were not provided with an adequate number of technicians, although this was required under IPHS. Ambulance staff (drivers) were found to be untrained in Basic Life Support services, in four of the test-checked DHHs (Bhadrak, Kandhamal, Nabarangpur and Nuapada).

Ambulances were available only in eight, out of the 14 test-checked CHCs. Further, two of these ambulances had no BLS equipment.

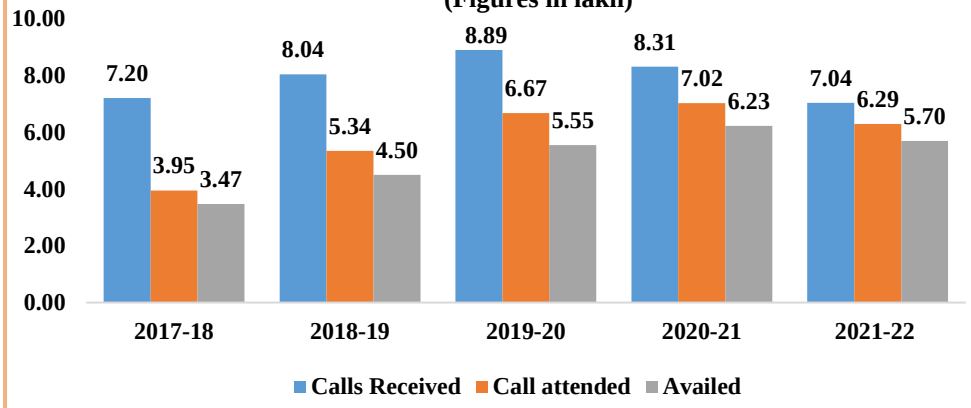
The people in the State mostly depend on the 108 ambulance service, under the Emergency Medical Ambulance Service (EMAS)[72], a joint initiative of Government of India and the State.

3.9.3.1 Emergency Medical Ambulance Service (108-Ambulance service)

Emergency Medical Ambulance Service (EMAS) is provided to the people of the State, free of cost, through one private agency[73] engaged by the H&FW Department. A fleet of 624 ambulances (108-Ambulance service) were operational under EMAS, for providing transportation service to the patients. The district-wise availability of ambulances, as of March 2022, is given in ***Appendix 3.12***. Under EMAS, 25.44 lakh patients had availed ambulance services, during 2017-22 (up to December 2021), in the State.

As per the Standard Operating Procedure (SOP), the call centres/control room and overall emergency response services, should function uninterruptedly for ensuring that no calls are left unattended. On an analysis of the data provided by the NHM, Odisha, Audit observed that only 29.26 lakh (74 *per cent*) out of 39.48 lakh calls, received during FYs 2017-18 to 2021-22 (up to December 2021), for emergency ambulance services, were attended, leaving 10.22 lakh (26 *per cent*) calls, unattended. Out of these attended calls, only 25.44 lakh (87 *per cent*) patients had availed the ambulance services. The status of calls received during the period from FYs 2017-18 to 2021-22 (up to December 2021) and patients transported by 108-Ambulances, are given in **Chart 3.10.**

Chart 3.10: Number of calls received, attended and services availed (Figures in lakh)



(Source: Data obtained from the NHM, Odisha)

Thus, 14.04 lakh (36 *per cent*) of the patients compared to the calls received (39.48 lakh) for ambulance service, had not availed the transport facility under EMAS during FYs 2017-18 to 2021-22.

Further, as per the conditions of the Request for Proposal/ SOP, the service provider was to maintain an average response time of 30 minutes to reach the patient/ site. It was, however, noticed that out of 19.97 lakh cases attended during FY 2019-22 (up to December 2021), the average response time was more

[72] Under EMAS, a fleet of ambulances are operational to provide emergency transport service to the people, free of cost

[73] Ziqitza Health Care Ltd. Mumbai

than 30 minutes in 6.21 lakh cases, hampering timely and appropriate medical attention, in case of medical emergency.

3.9.3.2 Other deficiencies

Audit noticed that:

- The serviceability and availability of equipment in ambulances was not being checked on a daily basis, in three of the test-checked DHHs (Bhadrak, Kandhamal and Puri).
- The ambulances at DHH, Bhadrak, had no valid fitness certificates, as well as insurance and pollution certificates. In the absence of these mandatory documents, the vehicles should not have been on the road. Log books of the ambulances were not made available to Audit, due to which Audit could not ascertain the actual movement and purpose of vehicles for transportation of patients.

Thus, the ambulance service for transportation of patients, in the test-checked hospitals, was deficient on many fronts and the people were mostly dependent on 108/ 112 - Ambulance services.

The H&FW Department stated EMAS-108 ambulances were available across the districts to transport patients from site of emergency to the nearest Government hospitals. The fact, however, remains that the public hospitals should have their own ambulances to meet the emergency situation, in case of non-availability of EMAS ambulances.

3.9.4 Mortuary Services

As per IPHS, there should be a mortuary, in a separate building in the hospital premises, for keeping dead bodies and conducting autopsies, and there should be a mortuary van in the DHHs. In a mortuary, there should be a post-mortem room, having a stainless steel autopsy table, with sink and running water for washing specimens. There should also be proper illumination and air-conditioning. Further, there should be a separate room for body storage, with at least two deep freezers, for preserving the body. In addition, there should be a waiting area for relatives and a space for religious rites.

Audit noticed that mortuary services were available in all the test-checked DHHs. The mortuary services in the DHHs were, however, deficient in infrastructure and equipment, as discussed below:

- Deep freezers, for storage of dead bodies, were not available in two (Bhadrak and Puri), out of the seven test-checked DHHs. The deep freezer at DHH, Nabarangpur, was defunct and the dead bodies were being kept on the floor. On the other hand, two deep freezers, supplied to CHC, Nimapara, were lying uninstalled, due to non-availability of necessary space and infrastructure.
- A stainless steel autopsy table was available only at DHH, Nabarangpur. In the other test-checked hospitals, granite or concrete structures were being used for autopsy purposes.

	
Deep freezers for storing dead bodies, lying uninstalled, at CHC, Nimapara (27 June 2022)	**Concrete slabs in the post mortem room, at DHH, Bhadrak (20 May 2022)**

- Equipment such as spot lights, weighing machines, *etc.*, were not available in three (Bhadrak, Dhenkanal and Sundargarh), out of the seven test-checked DHHs.
- The post mortem rooms had ACs in only two of the test-checked DHHs (Puri and Nabarangpur).

Thus, mortuary services in the test-checked DHHs lacked minimum infrastructure.

The H&FW Department stated (February 2023) that steps were being taken for providing infrastructure in the DHHs for mortuary services as per IPHS norm.

3.9.4.1 Autopsy and mortuary management in Medical College Hospitals

As per NMC guidelines, there is to be an Autopsy room, with ante-rooms, waiting hall and office, along with facilities for cold storage, storage of cadavers and washing, with an accommodation capacity of 20-25 students. The location of the mortuary and autopsy block is required to be either in the hospital, or adjacent to the hospital, in a separate structure, under the Department of Forensic Medicine.

Audit noticed that, although both the test-checked MCHs had mortuary units, there existed certain deficiencies, as discussed below.

3.9.4.2 Availability of infrastructure

The infrastructure, available for mortuary/autopsy services, in both the test-checked MCHs, was insufficient.

- Against the requirement of 400-500 square meters (sqm.) area, the mortuary building in PRM MCH had 56 sqm. area, while the mortuary building in MKCG MCH had 70 sqm.
- In MKCG MCH, the mortuary building had only one room and a corridor with an asbestos roof.

- In PRM MCH, only one post-mortem room was functional. The other two rooms, intended to be the doctor's room and the body storage room, were in a damaged condition and were non-functional.
- The required facilities for storage of cadavers, ante-rooms, accommodation capacity of 20-25 students, waiting hall and office, were not available in both the test-checked MCHs.
- A cold-storage facility, for storage of cadavers, was available in MKCG MCH, but such a facility was not available in PRM MCH. Three deep freezers, costing ₹11.67 lakh, supplied to PRM MCH in March 2021, were lying uninstalled, due to lack of electricity supply in the newly constructed building as of April 2022.

Mortuary building of PRM MCH, Baripada (12 May 2022)

- In both the test-checked MCHs, stainless steel autopsy tables were not available and granite or concrete structures were, instead being used for conducting autopsies. As a result, a clean and disinfected environment was not maintained in the mortuary.
- The post-mortem rooms had no air conditioning facilities, for conducting autopsies and clinical teaching aids, for medical students, were missing in both the test-checked MCHs. No demonstration galleries for students, were available in both test-checked MCHs.
- No mortuary vans were available, for transportation of dead bodies, in both the test-checked MCHs. Bodies were being brought to the mortuary, by the concerned police officials and were being taken over by the police/ relatives of the deceased, on their own arrangements.

The H&FW Department stated (February 2023) that proposal for new mortuary building was in process.

3.9.4.3 Adequacy of equipment

Against the requirement of 19 types of equipment for conducting medico-legal autopsies, PRM MCH had only five types of equipment, while MKCG MCH had six types of equipment.

- The equipment missing in the mortuary units of the two MCHs, included:
  - PRM MCH: Weighing machine for dead bodies, organs and foetus; Brain knife; X-ray view box; Stretcher for shifting dead bodies; and Portable X-ray machine, *etc*.

- MKCG MCH: Weighing machine for dead bodies; instrument trolley; Stryker type autopsy saw, with accessories; Autopsy tables; Brain knife, *etc*.

- As per MSRR, the Forensic Medicine and Toxicology (FMT) Department in an MCH should have 12 types of equipment for conducting examinations in cases of sexual assault. Audit noticed that none of the prescribed 12 items of equipment were available in the FMT Departments of the two test-checked MCHs. This indicated severe deficiencies in the scope and nature of examinations carried out in cases of sexual assault, as well as the lack of a suitable clinical learning environment for the medical students.

The H&FW Department stated (February 2023) that indents for the equipment had been given to the OSMCL for supply to the MCHs.

3.10 Auxiliary Services

3.10.1 Patient's Registration

The registration facility for OPD is the first point of contact with the hospital, for a patient and is an important component of the hospital experience for patients and their attendants. The 'waiting time', at the Reception/ Registration counter of a hospital, plays a vital role in developing trust in the quality of medical treatment or diagnosis.

The NHM Assessor Guidebook (Volume 1) estimates the average time required for registration, to be three to five minutes per patient, which roughly works out to about 12-20 patients/ hour, per counter.

Audit examined the number of OPD patients registered during FY 2021-22, in each test-checked DHH/ MCH, along with the availability of registration counter(s) and observed that registration counters, in four of the test-checked DHHs, did not conform to the prescribed norms, as shown in **Table 3.18.**

Table 3.18: Requirement and availability of registration counters

DHH / MCH	Patients registered (2021-22)	Registration counters[74] required	Registration counters available	Shortfall
DHH, Bhadrak	2,86,629	7	4	3
DHH, Dhenkanal	2,86,916	7	3	4
DHH, Kandhamal	2,03,253	5	2	3
DHH, Nabarangpur	1,07,054	2	2	0
DHH, Nuapada	77,262	2	2	0
DHH, Puri	4,78,107	11	4	7
DHH, Sundargarh	2,19,125	5	5	0
PRM, MCH	3,77,342	9	5	4
MKCG, MCH	9,40,328	21	10	11

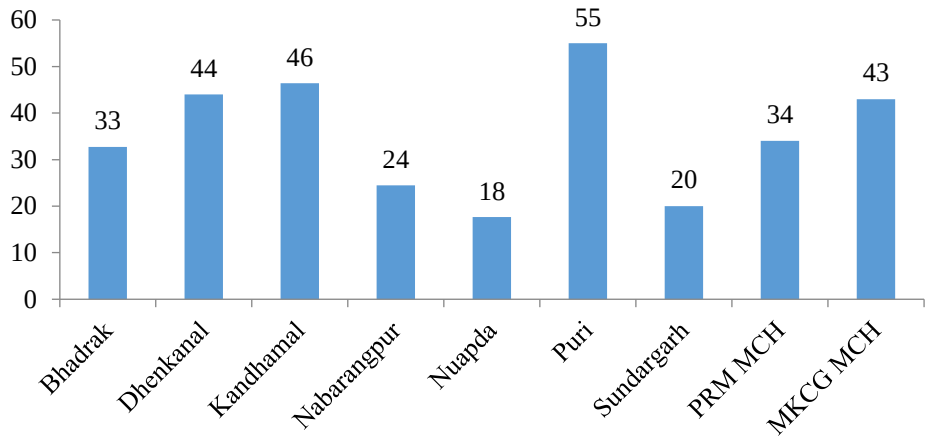
(Source: Data furnished by the test-checked DHHs and MCHs)
(Red colour: Shortage of counters; Green: No shortage)

[74] Number of OPD patients ÷ (6 hours ×365 OPD days ×20)

Among the test-checked district hospitals, DHH, Puri, had registered the highest number of patients, during FY 2021-22, followed by DHH, Dhenkanal and DHH, Bhadrak. Among the two test-checked MCHs, MKCG MCH, Berhampur, had a shortage of 11 counters.

The average patient load per counter per hour, for the test-checked DHHs/ MCHs, is shown in **Chart 3.11**.

Chart 3.11: Average patient load per counter per hour



(Source: Data obtained from test-checked DHHs and MCHs)

Thus, the patient load in registration counters was maximum at DHH, Puri, with 55 patients per hour per counter, followed by DHH, Kandhamal, with 46 patients per hour per counter. Similarly, the two MCHs also had high patient loads, compared to the norms prescribed under the NHM guidelines, which was due to the shortage of registration counters.

During patients' survey, about 64 *per cent* patients, visiting the test-checked hospitals, stated that they had to wait for more than five minutes for registration. Thus, only 36 *per cent* patients could be registered within the prescribed timeline of five minutes.

Patients waiting for registration in front of the counter at DHH, Bhadrak, on 19 May 2022

The H&FW Department stated (February 2023) that action was being taken for provision of additional registration counter, and online registration facility had been introduced for early disposal of OPD registration.

3.10.2 Grievance Redressal

For effective redressal of grievances of patients, IPHS stipulates that every grievance should be duly acknowledged. Suggestion/complaint boxes are to be provided at the enquiry counters and at other conspicuous places in the hospital. The name, designation and telephone number of the nodal officer concerned, should be duly displayed at the Reception.

Audit observed that no grievance redressal cells/ complaint cells had been set up in three DHHs (Kandhamal, Nabarangpur and Nuapada), out of the seven test-checked DHHs.

Audit noticed that suggestion/complaint boxes were available in all the test-checked DHHs, except for DHH, Bhadrak. The name, designation and telephone number, of the concerned nodal officer, had not been displayed in DHH, Bhadrak. No records regarding the number of complaints received, resolved *etc*., were made available to Audit. The DHH had, however, attended to 26 complaints, received online through the centralised grievance portal (*e-Abhijog*[75]), during FYs 2018-19 to 2021-22. Thus, the grievance redressal mechanism in DHH, Bhadrak, was not adequate for addressing the complaints/ grievances of the patients and the public.

Though 24 complaints, like non-availability of wheel chairs, staff misbehavior, *etc*., had been registered in DHH, Kandhamal, during FYs 2017-18 to 2021-22, action taken thereupon was not available on record.

Medical College Hospitals

- **MCH, Berhampur**: Suggestion/complaint boxes were placed in MKCG MCH, but no action had been taken in regard to 496 complaints, received during 2016-22.
- **MCH, Baripada**: Suggestion/Complaint boxes had not been placed, to enable patients to provide feedback, in PRM MCH.

The H&FW Department stated (February 2023) that complaint/ suggestion boxes had been placed in front of the Superintendent of the PRM MCH, for valuable feedbacks.

3.10.3 Patient Safety

The National Building Code of India 2016, Part 4, 'Fire and Life Safety', requires that fire extinguishers be installed in every hospital, so that the safety of the patients/ attendants/visitors and the hospital staff is ensured, in case of any fire in the hospital premises. Further, the NHM Assessor's Guidebook, envisages that, in each hospital, a Disaster Management Committee (DMC) be constituted and Standard Operating Procedures (SOPs) be available, in case of disaster situations. A Disaster Management Plan was to be developed in each hospital, for ensuring preparedness and training of the hospital staff and periodic mock drills were also required to be conducted.

It was observed that no DMCs had been constituted in the DHHs of Dhenkanal and Nabarangpur. Further, no SOP had been developed at DHH, Nabarangpur. Mock drills for fire safety were not being documented and no record of attendance was being maintained at DHH, Kandhamal. Fire Safety Audit Reports were not made available to Audit, by any of the test-checked DHHs.

3.10.3.1 Medical College Hospitals

On scrutiny of records and JPI, Audit noticed that no plans for prevention of fire existed in the two test-checked MCHs. Further, adequate quantities of fire-

[75] Odisha State Grievance Redressal Portal to facilitate online grievance redressal mechanism

fighting equipment, to meet any untoward contingency, were not in place, in the two test-checked MCHs. It was further seen that:

- PRM MCH did not obtain 'No Objection Certificates (NOCs)', for any of its hospital buildings, from the Fire Department, while MKCG MCH had obtained NOCs for 13 (out of 44) buildings only.
- In PRM MCH, out of 14 buildings, being used for hospital services, five had one to 90[76] fire extinguishers, while the other buildings did not have any fire extinguishers or smoke detectors.
- During Joint Physical Inspection (June 2022) of four buildings (Regional Diagnostic Centre, Blood Bank, O&G and Casualty) of MKCG MCH, Audit noticed that the fire safety provisioning was not adequate. The life period of gas, in the fire extinguisher equipment, in the Regional Diagnostic Centre and Blood bank buildings, was found to have expired a long time back (March 2018/ October 2021). Fire extinguishers were also not found on the first floor of the Regional Diagnostic Centre and Blood bank buildings. Similarly, there were no fire extinguishers in four floors of the O&G building and two floors of the Casualty building.

Thus, the facilities available for fire safety were deficient at both MCHs, creating an avoidable risk for the safety of patients and students.

The H&FW Department stated (February 2023) that the availability of required number of fire extinguishers had been ensured in the buildings, and complete fire safety system would be installed in the new buildings.

3.11 Managing Committee meetings and Hospital Transfusion Committees

As per instructions of the State Government, the Managing Committees[77] of blood banks were required to meet at least twice in each year, to review the progress and performance of the blood banks/centres and submit their reports, in this regard to the State Blood Transfusion Committee (SBTC), for review. Similarly, Hospital Transfusion Committees[78], for blood banks, were required to meet, at least once in every month and the proceedings of such meetings were to be submitted to the SBTC.

Audit noticed that:

- MC meetings were not held in three BCs (Dhenkanal, Nuapada and PRM MCH). In the remaining six[79] BCs, only two to six meetings were held, against the requirement of 12 meetings, during the period 2016-22.
- HTCs were not formed in the blood centres of four DHHs (Bhadrak, Dhenkanal, Kandhamal and Nuapada). In four of the test-checked

[76] MCH:90; SNCU/ Orthopaedic: 04; RDC: 01; 80-bedded ward:15 and blood bank: 01
[77] To formulate policies for smooth management of blood banks as per Drugs and Cosmetic Acts and Rules
[78] For regular exchange of technical knowledge on rational use of blood and review cases of adverse reaction during transfusion and quality control of blood transfusion service
[79] Except for MCH, Baripada

hospitals (DHHs of Nabarangpur, Puri, Sundargarh and MKCG MCH), one to eight meetings were conducted, during the period 2016-22.

Due to absence of committees and non-holding of regular meetings, proper functioning of blood centres was not ensured.

The H&FW Department stated (February 2023) that concerned authorities would be instructed to form Mangaing Committee and Hospital Transfusion Committee at BCs.