CHAPTER 5

Healthcare Infrastructure

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 norms. Hospital beds in health facilities were scarce, as only 0.35 beds were available per 1,000 populations in the State. Delay in completion of works and failure of the Department to utilise the completed buildings, aggravated the problem of access to quality healthcare. There was acute shortage of staff quarters for accommodation of staff, including doctors, nurses, paramedics, *etc.* in healthcare facilities.

5.1 Introduction

Health infrastructure is an important indicator for the healthcare policy and welfare mechanism in a State. To deliver quality health services in public health facilities, adequate and properly maintained building infrastructure is of critical importance.

The National Health Policy (NHP), 2017, envisages attainment of the highest possible level of health and wellbeing for all ages, through a preventive healthcare orientation in developmental policies and universal access to good quality health services, without anyone having to face financial hardship.

On scrutiny of the records and data, made available by the Department, Audit observed insufficiencies in regard to infrastructure and availability of health facilities, as discussed in succeeding paragraphs.

5.1.1 Availability of infrastructure facilities in CHCs, PHCs and SCs

IPHS provides that each SC and PHC should have its own hospital building, adequate space and residential accommodation. Further, it should be adequately serviced with public utilities, such as water, electricity, *etc*.

Audit noticed that, while all CHCs in the State had their own buildings, there were deficiencies in PHCs and SCs in this regard. Out of the 1,340 PHCs and 6,688 SCs in the State, 29 PHCs

[110] (two *per cent*) and 1,737 SCs (26 *per cent*) did not have their own buildings. The SCs in the State were found deficient in regard to infrastructure and amenities, as below:

- Only 5,743 (86 *per cent*) SCs had electricity connections, while 1,480 (22 *per cent*) had provision for piped water supply.
- Separate toilets were available only in 126 (two *per cent*) SCs.
- Residential accommodation for Auxiliary Nurse Midwives was available in 5,398 (81 *per cent*) SCs.

[110] Rural Health Survey Report, 2020-21

Thus, the PHCs and SCs were not IPHS compliant, in terms of infrastructure/ facilities, as stated above, for providing quality healthcare services to the rural population.

The H&FW Department stated (February 2023) that administrative approval for construction and renovation of health infrastructure was a continuous process and was being followed without delay.

5.1.2 Construction/ upgradation of health infrastructure

Construction and renovation of hospital buildings, under the H&FW Department, are assigned to the line departments[111] of the State. The H&FW Department accords administrative approval for creation of health infrastructure and communicates it to the line departments, for execution of the approved works, following due procedure.

NHM, Odisha, had accorded administrative approval for execution of 5,737 works, during the FYs 2016-17 to 2021-22, with a sanctioned amount of ₹1,501.57 crore. Out of this, 3,556 works were completed and 2,167 works were lying incomplete, as of 31 March 2022, as detailed in **Table 5.1.**

Table 5.1: Status of works approved by NHM, Odisha (amount in ₹ lakh)

Financial Year	Works sanctioned		No. of works completed	No. of works lying incomplete	Expenditure on incomplete works	No. of works dropped/ cancelled
	No. of works	Sanctioned cost				
2016-17	95	NA	89	3	1,736.45	3
2017-18	288	19,701.58	260	23	4,495.20	5
2018-19	851	15,500.51	783	68	2,782.40	-
2019-20	1,835	47,474.89	1,467	362	7,580.50	6
2020-21	1,063	16,448.07	761	302	2,329.69	-
2021-22	1,605	51,032.12	196	1,409	2,802.29	-
Total	**5,737**	**1,50,157.17**	**3,556**	**2,167**	**21,726.53**	**14**

(Source: Data provided by NHM, Odisha)

Audit noted that construction of 456 (15 *per cent*) projects, approved during FYs 2016-17 to 2019-20, had not been completed, even after two to five years of approval. An amount of ₹165.95 crore had been incurred on these incomplete works. These incomplete works included construction of MCH buildings, construction/ upgradation of CHC buildings, labour rooms, OPD buildings, SC buildings, *etc*.

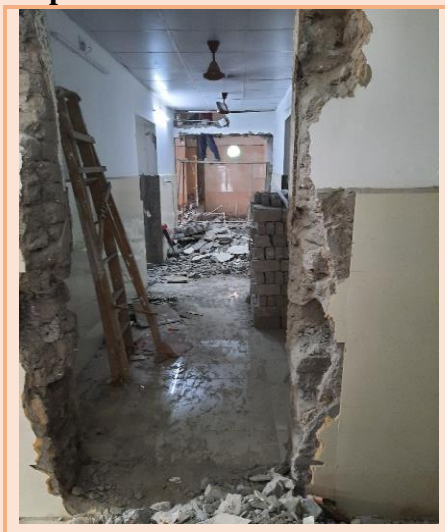
Audit observed that reasons for the delays in execution included non-finalisation of tenders, pending settlement of land disputes, non-signing of agreements, *etc*. Besides, there were deficiencies in the monitoring and follow-up mechanism adopted by NHM, to keep track of the progress of works.

[111] R&B Divisions under the Works Department; Rural Works Divisions under the Rural Development Department; Panchayati Raj Department, *etc*.

Construction of one 50-bedded IPD building, with an OPD complex, at the Sub-Divisional Hospital, Kamakshyanagar, was sanctioned during 2017-18, with an estimated cost of ₹ 2.30 crore.

The building was to be completed by December 2020. NHM, Odisha, reported (February 2022) that the building had been completed. During JPI (May 2022), the building was found to be incomplete, with expenditure of ₹ 1.73 crore, having been incurred thereon. The internal electrification work of the first floor and PH work had not been completed. Modification work of the OPD and construction of an emergency exit was going on by dismantling some portion of the newly constructed building. The SDH building had not been completed even after 17 months of the stipulated period had elapsed and the SDH was functioning in the old building.

The misreporting of the status of the hospital building, without reference to the actual status on the ground, indicated severe deficiencies in the monitoring and supervision mechanism, adopted by the NHM and the hospital authorities.



Modification work at the newly constructed SDH Building (10 May 2022)

Dismantling of the OPD portion of the building, for extension of OPD (10 May 2022)

Details of the works approved/ sanctioned under the State plan were not available with the district hospitals. They were, therefore, not in a position to effectively supervise the ongoing execution of works, intended for their end use. The H&FW Department and DHS, after according administrative approval for creation of health infrastructure under the State Plan, did not monitor the status of execution of these works. No database/ register, for recording and maintaining the updated status of these works, was being maintained at the Directorate/ Department level.

As a result of the above systemic lapses and absence of key internal controls to monitor the status of execution of works, there were significant delays in the completion of works.

The H&FW Department stated (February 2023) that the delay in completion of works would be looked into and the engineering personnel under NHM would be sensitised about the matter.

Recommendation 5.1:

The Department and its field functionaries may maintain a database of the approved works and coordinate with the line departments to monitor execution of the works, for ensuring their completion and handing over the same to the user agencies, as per the schedule.

5.1.3 Status of utilisation of healthcare infrastructure

5.1.3.1 Medical College Hospitals

During FYs 2016-17 to 2021-22, the H&FW Department/ DMET, Odisha, accorded administrative approval for four works, with an estimated cost of ₹269.11 crore, for the Pandit Raghunath Murmu Medical College and Hospital (PRM MCH). As of May 2022, three of these four works, were under progress and the scheduled date of completion (June 2021) of one work (non-teaching residence, nursing hostel) was over. Two works[112] were scheduled to be completed by September and November 2022, whereas demarcation of land for another work (hostel building) had not been completed (May 2022). The expenditure incurred on these works was only ₹59.06 crore, which was 22 *per cent* of the estimated amount.

In case of MKCG MCH, data relating to approval of works, status of the approved works, *etc*., was not provided to Audit.

Audit further noticed that the building infrastructure, created in these two test-checked MCHs, had not been put to use, even after a lapse of four to five years of handing over, as detailed in **Table 5.2.**

Table 5.2: Idle infrastructure in the test-checked MCHs

MCH	Infrastructure not in use	Date of handing over	Cost of construction (₹ in crore)	Reasons for non-utilisation
MKCG MCH, Berhampur	Laboratory Complex Building	July 2018	11.43	No security arrangement and pending minor works.
	28-bedded ICU building	November 2018	6.93	Gas pipeline work in progress.
PRM MCH, Baripada	Autopsy Block	September 2017	NA	Absence of permission to carry out medico-legal autopsies.
	Animal House	September 2017	NA	Non-posting of required staff and want of license to keep animals.

(Source: Records of the test-checked MCHs and JPI)

[112] Construction of teaching hospital (650-bedded hospital, service block, medical gas pipeline system): November 2022; Construction of approach road of teaching hospital: September 2022

Audit observed the following in this regard:

- The laboratory complex of MKCG MCH, Berhampur had been allotted to seven departments[113] of the college, for running their practical classes. The departments had, however, not been able to shift their laboratories to the new building, as the College authorities had not addressed the security issues and had also not ensured completion of the pending minor works. Resultantly, the building had remained unused, even after four years of completion, compelling the departments to continue to run the practical classes in the existing infrastructure, with considerable difficulty. The building was reported to have been damaged by some miscreants, with theft of hardware and other items valued at ₹ 5 lakh, as per the FIR lodged (January 2022) by the College, with the local police.
- The ICU building had not been used for patient care, even after four years of its completion, as the gas pipeline work for the ICU was under progress, indicating the apathy of the College authorities towards putting the created infrastructure to use, for better patient care.
- Despite the fact that the Autopsy building for PRM MCH, Baripada, had been completed and handed over in September 2017, the College authorities had neither obtained permission from Government to carry out medico-legal autopsies, nor had they made any MoU with the Government/ district hospital, for conducting post-mortems to teach and train students, as required under the NMC Regulations. Instead, the medical students continued to attend autopsies at the old mortuary building (DHH Campus), which lacked adequate infrastructure.

  The Dean and Principal of PRM MCH stated (May 2022) that the post-mortem works would be made in the autopsy block, soon after the completion of the attached hospital building, after obtaining order from the Government.
- Although the Animal House had been complete since September 2017, PRM MCH, Baripada, applied for registration to CPCSEA[114], only in May 2020, for keeping animals. The registration/ license had not been obtained till date (May 2022). Besides absence of permission, the required manpower (Veterinary Officer, Animal attendants, Technicians) was also not available, for conducting research work on animals. As a result, the building had been lying idle, since the last five years. The Dean and Principal of the MCH stated (May 2022) that the required manpower would be posted, after registration of the Animal House.

[113] Departments of Microbiology; Pathology; Community Medicine; Biochemistry; Pharmacology and Physiology; Forensic Medicine; Toxicology

[114] Committee for the Purpose of Control and Supervision of Experiments on Animals, Government of India

	
Laboratory complex at MKCG MCH, Berhampur (16 July 2022)	**Autopsy building at PRM MCH, Baripada (20 April 2022)**

Thus, the College authorities exhibited a lack of concern in regard to utilisation of the created infrastructure for medical education and patient care, rendering the expenditure incurred thereon futile.

The H&FW Department stated (February 2023) that the Autopsy Block would be made functional after receipt of permission from the Home Department, and the Animal House was functioning with the help of the local veterinary surgeon, as the required posts had not been created. The reply was not tenable, since there was abnormal delay in availing the necessary permission and deployment of required manpower.

5.1.3.2 DHHs/ CHCs/ PHCs

Scrutiny of records of the test-checked hospitals and JPI conducted during April 2022 with the hospital staff, Audit came across various instances of non-utilisation/ utilisation of the created infrastructure for purposes other than intended, as discussed below:

- ***Kandhamal***: 12 E-type quarters, one transit house and third floor of the MCH[115] building for the DHH, constructed with an expenditure of ₹5.51 crore, were reported by the DHH as having been completed during June-July 2021. It was, however, noticed, during JPI, that some works were still going on, due to which the buildings had not been handed over.
- ***Bhadrak***: The building for labour room and ward, constructed at a cost of ₹21 lakh, for PHC, Ertal, was lying idle, without having been handed over to the hospital, for the last two years, as of April 2022. The building had not been handed over, as the required rectification works had not been carried out by the executing agency, *i.e*. Rural Works Division-II, under the Rural Development Department.

  The OT building at CHC, Barapada, was being utilised for storage of sanitary napkins, distributed under KHUSI[116] programme, as no OT services were available in the CHC, due to want of required manpower. Further, as the Nutritional Rehabilitation Centre at DHH, Bhadrak, was

[115] Mother and Child Healthcare building

[116] A State Government intervention to provide sanitary napkins to the girl students reading in Class VI to Class XII

under repair and maintenance, the Geriatric ward of the hospital, was being utilised as the rehabilitation centre.

- ***Dhenkanal***: The 10-bedded Geriatric ward at the DHH constructed at a cost of ₹29.92 lakh had not been handed over as of September 2022, though it was reported as having been completed during December 2021.
- ***Nabarangpur***: The 10-bedded Geriatric ward, constructed at the DHH, was being used as an ICU.

E-type quarters at DHH, Kandhamal, not handed over after completion (29 April 2022)

Labour room and Ward constructed at PHC, Ertal, lying idle for the last two years (29 April 2022)

Non-utilisation of assets after completion, indicated inadequate coordination with the executing agencies and lack of effective monitoring by the Hospital authorities. Consequently, the created infrastructure was not put to end use, as intended. Reasons for non-handing over of these buildings, were not found on record.

The H&FW Department stated (February 2023) that the MCH building at DHH, Kandhamal had been made functional and the electricity connection to the E-type quarters was awaited. It further added that the rectification work at PHC, Ertal would be completed soon, and necessary steps had been taken for handing over the buildings at DHH, Dhenkanal and Nabarangpur.

5.1.4 Repair and maintenance of infrastructure

The CDM & PHOs of the districts are to prepare estimates and execute works for proper upkeep of the hospital buildings, through periodic maintenance, to utilise the created infrastructure optimally and to ensure availability of a safe, clean and conducive environment for the public and hospital staff.

Audit observed that the CDM & PHO had not taken effective steps for repair and maintenance of infrastructure in the test-checked DHH, Bhadrak and PHC, Khuntagaon, as discussed below:

5.1.4.1 DHH, Bhadrak

- The building used for storing linen was in a dilapidated condition and had not been repaired/ renovated.
- The lifts were stated to have been out of order for several months, causing severe hardship to patients, who had limited mobility, in the four-floor buildings.
- ACs fitted in OTs and SNCU had not been repaired and were non-functional during the summer months.
- The front floor area of the Drug Distribution Counters (DDCs) was in a damaged condition. The upper part of the walls, below the roof, had growth of algae and mosses, due to seepage of rain water.
- Computer systems and scanners in the DDCs had not been repaired/ replaced, hampering the drug distribution services.

5.1.4.2 PHC, Khuntagaon

- The ceiling of the patients' observation room at PHC, Khuntagaon, was in a damaged condition and had not been repaired.
- The staff quarters, though in an inhabitable condition, had not been repaired/ renovated. The hospital staff were residing in these damaged quarters.

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<td>Dilapidated building used for storage of linens at DHH, Bhadrak (3 June 2022)</td>
<td>Dilapidated condition of the patient observation room at PHC, Khuntagaon (24 June 2022)</td>
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	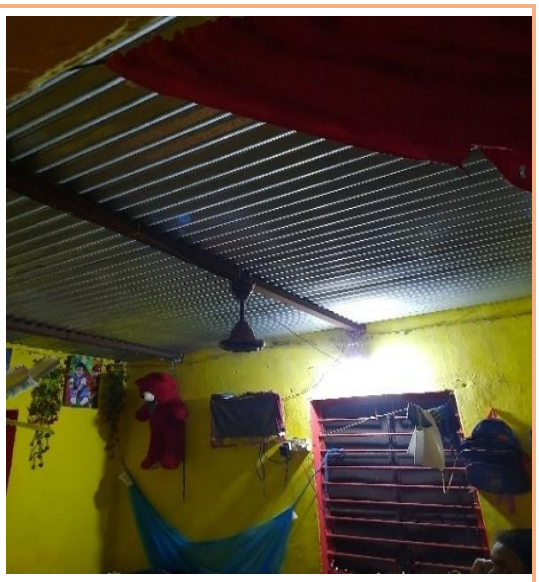
Ceiling of a residential quarter at PHC, Khuntagaon, not repaired (24 June 2022)	**Staff quarter with a tin sheet below the roof, at PHC, Khuntagaon (24 June 2022)**

The H&FW Department stated (February 2023) that necessary steps had been taken for repair and renovation of the buildings.

5.1.5 Inadequate basic facilities

IPHS provide that hospitals should have proper patient amenities, like potable drinking water, functional and clean toilets with running water and flush, fans and seating arrangement as per load of patients for OPD services.

Although these amenities had been provided in the test-checked DHHs, CHCs and PHCs, the following deficiencies were noticed in Audit, in regard to availability of amenities for OPD patients:

- DHH, Bhadrak, did not have adequate seating facility for patients and attendants, as they were found standing in queues, for availing OPD services. Separate toilets for males and females were also not available for OPD patients.
- DHH, Nabarangpur, did not have toilets for OPD patients.
- Five PHCs (Badaninigaon, Fakirsahi, Maidalpur, Sabarang and Khuntagaon) did not have separate toilets for male and female OPD patients.

5.1.5.1 Availability of other facilities/ amenities in SNCU

Out of the four ACs installed in the SNCU ward at DHH, Bhadrak, two were not functioning. As a result, the room temperature of SNCU ward was not being maintained as per the requirement (within 22 to 25 degrees centigrade). The room temperature of SNCU was found to be 28 degree centigrade, on 6 April 2022, during JPI.

An SNCU was functional in the third floor of the four storied building at DHH, Bhadrak. Other clinics, like the sunstroke ward, dengue ward, female medicine ward and pediatric ward, were also functional in the building. The lift installed for the building was functioning intermittently. A ramp facility, for physically challenged people/ patients and transportation of other serious/ critical patients,

was, however, not available in the building. Resultantly, the patients, after delivery, were compelled to use the staircase, with much inconvenience.

Thus, the SNCU facilities of DHH, Bhadrak, did not have adequate infrastructure, human resources and equipment, contributing to neonatal deaths and referral to other hospitals.

The H&FW Department stated (February 2023) that steps had been taken to functionalise the ACs to maintain the required temperature.

Recommendation 5.2:

State Government may ensure fully equipped SNCUs, as per the MNH toolkit and IPHS, for treating critically ill newborns, in district hospitals.

5.1.6 Availability of clinical infrastructure

5.1.6.1 At DHHs

As per the IPHS/ NHM Assessors' Guidebook, hospitals should have clinical infrastructure, for providing essential medical services to the public.

Audit examined the availability of 22 essential clinical infrastructures (clinics/ wards) in seven DHHs and found shortage in six DHHs, as detailed in **Table 5.3.**

Table 5.3: Details of clinics/ wards which were not available in the test-checked DHHs

DHH	Clinics / wards not available
Bhadrak	Burn ward, Psychiatry clinic, Neonatology clinic, Malaria ward, Infectious diseases ward and Private ward
Dhenkanal	Emergency/trauma ward, Neonatology clinic, Dermatology and Venereology clinic
Kandhamal	Geriatric ward
Nabarangpur	Psychiatry, Malaria ward, Infectious diseases ward, Geriatric ward, Dermatology and Venereology clinic
Nuapada	Dermatology and Venereology clinic
Sundargarh	-
Puri	Post-operative ward and Geriatric ward

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

DHH, Sundargarh, had physical infrastructure for all the 22 clinics/ wards, for delivery of clinical services to the public.

The DHHs of Bhadrak and Nabarangpur had a higher extent of shortage of clinical infrastructure, compared to the other test-checked DHHs.

5.1.6.2 At CHCs

In 14 CHCs, test-checked by Audit in seven districts, Audit examined the availability of nine clinical infrastructure facilities, prescribed under IPHS, and noticed that:

- An OPD room, Pharmacy, Labour Room and Laboratory, were available in all CHCs.
- No waiting room was available in the CHCs of Lahunipara and Sriramchandrapur.

- No OT was available in two CHCs (Kuarmunda and Lahunipara).
- No X-ray room was available in nine[117] CHCs.
- No Blood storage facilities were available in 10[118]CHCs.

5.1.6.3 At PHCs

In 14 PHCs, test-checked by Audit, in seven districts, Audit examined the availability of seven clinical infrastructure facilities, prescribed under IPHS, and noticed that:

- A dedicated OPD room was available in all PHCs, except Sabarang.
- No separate dispensing-cum-store was available at the PHCs of Indragada and Sabarang.
- Dedicated laboratories were not available at the PHCs of Sabarang, Indragada and Darlimunda.
- Patients' waiting area was available in all PHCs.

OPD service provided at the door step and pharmacy running at the window of a single room at PHC, Sabarang (19 April 2022)

- Minor OT/ dressing/ injection/ emergency rooms were not available in five[119] PHCs.
- Three PHCs, at Ertal, Badaninigaon and Fakir Sahi, had no labour room for maternity services.
- Cold chain room was not available in five PHCs (Andali Jambahal, Kodinga, Badaninigaon, Fakir Sahi and Ranjabradi).

Thus, not all of the clinical infrastructure, as prescribed under IPHS, was available in the test-checked healthcare facilities.

The H&FW Department stated (February 2023) that the burn, psychiatric, infectious disease wards, *etc.*, had been included in the new building under construction at DHH, Bhadrak and proposal for PHC building at Sabarang was under process. It further added that the CHC at Barapada had neither been declared as a delivery point nor blood storage unit was approved for the CHC. The fact, however, remained that the CHC, Barapada, which was a secondary level healthcare facility, lacked required manpower, though basic infrastructure had been created.

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[117] Barapada; Raikia; Khariar Road; Komna; Kosagumuda; Bangurigaon; Sriramchandrapur; Khajurikata; Papadahandi

[118] Sriramchandrapur; Khajuriakata; Barapada; Bangurigaon; Papadahandi; Khariar Road; Kuarmunda; Raikia; Komna; Tikabali

[119] Khuntagaon; Anadali Jambahal; Sabarang; Indragada; Darlimunda

5.1.6.4 Clinical infrastructure in MCHs

The Minimum Standard Requirements Regulations (MSRR) guidelines of the Medical Council of India (NMC) provide that each ward should, *inter alia*, include a clinical demonstration room, examination and treatment room, residential doctors' and students' duty room and ward pantry. Audit, however, observed shortcomings in the test-checked MCHs, as detailed in **Table 5.4.**

Table 5.4: Availability of clinical wards in the test-checked MCHs

Infrastructure Item	Availability in PRM MCH (24 wards)	Availability in MKCG MCH (50 wards)
Clinical demonstration rooms	8 wards	42 wards
Examination and treatment rooms	9 wards	41 wards
Resident doctors' and Students' duty room	11 wards	48 wards
Store Room for linen and equipment	12 wards	50 wards
Ward pantry	3 wards	27 wards

(Source: Information furnished by the test-checked MCHs)

Shortages of clinical demonstration rooms and examination and treatment rooms, were areas of concern, as they could result in significant lowering of standards for patient-care and privacy, as well as the quality of learning for the medical students.

Audit reviewed the documents and records related to proposals for identification of need for the deficient infrastructure and noticed that, while construction of a new attached hospital, for PRM MCH, was in progress, MKCG MCH had not submitted any proposal for creating the missing infrastructure required for clinical demonstration rooms and examination and treatment rooms.

The H&FW Department stated (February 2023) that clinical infrastructure problem would be solved after completion of the hospital building, which was under construction.

5.1.6.5 Oxygen supply to IPDs in MCHs

As per NMC norms, all wards, in the Orthopedic, Surgery and Paediatrics Departments of the MCHs, should have wall mounted suction lines, along with piped wall mounted central oxygen lines, on all beds, and at least five beds, in each ward of the Ophthalmology department, should have an oxygen supply facility.

Audit noticed that the IPD beds/ wards, in the two test-checked MCHs, lacked the central oxygen supply facility, as discussed below:

- In MCH, Baripada, out of 245 IPD beds in four departments, only 20 beds in the paediatric ward had the facility for oxygen supply. The other 225 beds, in the Orthopaedic, Surgery and Paediatrics departments, did not have the central oxygen supply facility, due to want of pipelines for supply of oxygen.
- In MCH, Berhampur, out of 530 IPD beds to be provided with central oxygen supply, only 305 beds, in the Surgery and Orthopaedics departments, were connected with the central oxygen supply pipeline. The remaining 225 beds were not equipped with this facility. None of

the beds, in the Paediatrics and Ophthalmology departments, were equipped with central oxygen supply facility.

Despite the availability of five oxygen plants[120], along with Manifold Gas Pipe System, non-installation of a wall-mounted suction line, along with central oxygen supply pipelines to the IPD beds, indicated severe lapses on part of the hospital authorities, towards delivery of essential healthcare services in both the test-checked MCHs.

Thus, IPD services in the test-checked hospitals suffered from deficient manpower, equipment and infrastructure, impacting healthcare services adversely, in the State. This was evident from the fact that 1,42,137 patients had been treated in empaneled private hospitals, under BSKY[121], during FY 2021-22, with a three-fold increase in the number of patients (35,784) treated during FY 2020-21.

The H&FW Department stated (February 2023) the central oxygen pipelines as per requirement, would be provided in PRM MCH, after completion of the building under construction, and steps were being taken to provide manpower and central oxygen supply in MKCG MCH.

5.1.7 Adequacy of hospital beds

The number of functional beds is of fundamental importance to both the patients, as well as the staff. The projected population of the State during 2021, was 4,56,96,000[122]. As per the National Health Policy, 2017, the State should have had 91,392 hospital beds (2 beds per 1000 population). Against this, only 32,767 hospital beds (including 7,131 beds in private hospitals), were available in the State, as of March 2022. Thus, the State had a shortage of 58,625 (64 *per cent*) beds, compared to the requirement under NHP.

Shortage of beds seriously impacts hospital functions, as it is the primary cause for denial of admissions, cancellations of surgeries and delays in emergency admissions.

5.1.7.1 Availability of hospital beds in DHHs and CHCs

As per IPHS norms: (i) a district hospital should have a minimum of 275 IPD beds (at 100 *per cent* occupancy), in a district having a population of 10 lakh and (ii) each CHC should have a minimum of 30 beds.

Audit observed that, against the requirement of 12,519 beds in the DHHs of the State, as per the population norm, only 7,288 beds had been sanctioned. Thus, there was a shortage of 5,231 (42 *per cent*) IPD beds in the DHHs of the State, as of March 2022. Against the sanctioned strength of 7,288 beds, the DHHs had 10,471 functional beds, as of March 2022, as detailed in ***Appendix 5.1.***

Similarly, there should have been a minimum of 11,460[123] beds in the 382 CHCs functioning in the State, as required under IPHS. Government had, however,

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120 MKCG MCH: 3 (Central: 1 PSA Plant; State: 2 PSA Plants); PRM MCH: 2 (PM Care fund: 1 and CSR fund by State: 1)

121 Biju Swasthya Kalyan Yojana, a flagship scheme of the State Government for providing universal health service to the people, free of cost, in public health facilities and in empaneled private hospitals up to ₹ 5 lakh per family per annum.

122 Economic Survey of Odisha, 2021-22

123 382 CHCs @ 30 beds for each

sanctioned only 5,789 beds for these CHCs. Thus, there was a shortage of 5,671 (49 *per cent*) beds for CHCs, compared to the IPHS norms.

In the seven test-checked DHHs, Audit noticed that the IPD beds were not adequate. Five out of the seven test-checked DHHs had put additional beds in a congested manner, to accommodate the patient load. The status of the required number of beds, sanctioned bed strength and functional beds (including the additional beds), in the test-checked DHHs, as of March 2022, is given in **Table 5.5**.

Table 5.5: Requirement and availability of beds in the test-checked DHHs

DHH	Population of the district (2021)	Requirement, as per IPHS norms	Number of beds available		Percentage of sanctioned beds, compared to IPHS
			Sanctioned bed strength	Functional beds	
Bhadrak	16,74,000	367	191	336	52
Dhenkanal	12,61,000	345	300	300	87
Kandhamal	8,07,000	221	186	236	84
Nabarangpur	13,82,000	379	200	252	53
Nuapada	6,54,000	179	120	315	67
Puri	18,33,000	502	280	451	56
Sundargarh	22,81,000	625	330	330	117[124]
Total	**98,92,000**	**2,618**	**1,607**	**2,220**	**61**

(Source: Records of the test-checked DHHs and DHS, Odisha) (Red colour depicts shortage and green shows no shortage)

Thus, against the sanctioned strength of 1,607 beds, in the seven test-checked DHHs, 2,220 beds were functional, with the existing manpower and infrastructure. The sanctioned bed strength in DHH, Bhadrak and Nabarangpur, was about 50 *per cent* of the requirement. The number of sanctioned beds was more than the IPHS norm only in the Sundargarh district, as the Rourkela Government Hospital (RGH), which had DHH status, had 400 beds.

The additional beds, made functional by the DHHs, in the common spaces and verandahs, resulted in spatial congestion, as can be seen in the following pictures.

Beds placed in the verandah, to accommodate patients, at DHH, Sundargarh (25 July 2022)

[124] Calculated including 400 beds sanctioned for RGH, Rourkela, in the Sundargarh district

Three beds joined together and accommodated in the verandah, at DHH, Bhadrak (20 May 2022)

Similarly, in 11 out of the 14 test-checked CHCs, the sanctioned bed strength was less than the minimum requirement of 30 beds. The details of beds sanctioned and available in the test checked CHCs are given in **Table 5.6.**

Table 5.6: Sanctioned strength and functional beds in the test checked CHCs

Sl. No.	CHC	Minimum beds required as per IPHS	Number of beds available	
			Sanctioned bed strength	Functional beds
1	Raikia	30	16	16
2	Tikabali	30	30	30
3	Khariar Road	30	16	16
4	Komana	30	16	16
5	Basudevpur	30	60	60
6	Barapada	30	6	0
7	Sriramchandrapur	30	16	16
8	Khajuriakata	30	6	6
9	Lahunipada	30	16	35
10	Kuarmunda	30	16	16
11	Kosagumuda	30	16	16
12	Papadahandi	30	16	16
13	Nimapara	30	44	44
14	Bangurigaon	30	16	16
	Total	**440**	**290**	**303**

(Source: IPHS norms and data provided by the test-checked CHCs)
(Yellow colour denotes non-availability; Light red shows shortage and green colour represents no shortage)

Audit noticed that:

- The sanction strength of the 11 test-checked CHCs was less than the minimum requirement of 30 beds compared to the IPHS norms.
- CHC, Lahunipara, had 35 functional beds, against the sanctioned strength of 16.

- In CHC, Barapada, though six beds had been sanctioned, IPD services were not available, due to lack of required manpower.

Thus, availability of hospital beds in the State was neither IPHS compliant, nor was it in consonance with the National Health Policy.

The H&FW Department stated (February 2023) that necessary steps were being taken for upgradation of hospital beds, as the State is committed to provide quality healthcare service to the public.

5.1.7.2 Availability of beds in maternity wing

As per IPHS norms, there should be 10 beds for 100 deliveries in a month, for maternity services in the hospitals.

Audit noticed that:

- The beds available for maternity services, in all the test-checked DHHs, were more than the IPHS norms.
- Despite the above, the beds available in two DHHs (Bhadrak and Kandhamal) were still not enough to house the patients requiring maternity services, as the average BOR in these hospitals remained above 150. Resultantly, the patients were accommodated by placing additional beds in the wards/verandahs, in a congested manner, as also on the floors of the maternity and pediatric wards.
- The BOR of the maternity wings of five test-checked DHHs remained between 69 and 93.

Patients being treated on the floor of the Maternity Ward, at DHH, Bhadrak (26 May 2022)

Patients treated on the floor of the Verandah of the paediatric ward, at DHH, Kandhamal (11 May 2022)

Treatment of mothers and children, in an inappropriate clinical environment, is fraught with the risk of hospital induced infections, contributing to maternal and neo-natal mortality.

The H&FW Department stated (February 2023) that steps were being taken to provide beds in hospitals, as per IPHS norms.

5.1.7.3 Availability of beds in SNCUs

As per IPHS, there should be, at least, 12 beds in the main SNCU, to cater to the sickest children in the hospital. An additional six beds are required, in the Step down Unit, for recovering neonates, who do not need intensive monitoring. Further, the SNCU ward should have 10 more beds, where both the mother and the newborn can stay together, for neonates who require minimal support, such as phototherapy, uncomplicated low birth weight, *etc*.

Audit observed that:

- All the test-checked DHHs had the required number of beds in the main SNCU.
- In the Step Down Units, there were shortages of two to four beds, in four of the test-checked DHHs (Dhenkanal: 3, Kandhamal: 4, Nabarangpur: 2 and Nuapada: 4).
- An SNCU ward, with 10 beds, to accommodate both the mother and the newborn was not available in any of the test-checked DHHs.
- No follow-up area had been provisioned in any of the DHHs, for the newborns discharged from the SNCUs of the DHHs, for counselling of the mothers, during discharge and for imparting family participatory care.

The H&FW Department stated (February 2023) that beds had been planned for treatment of newborns only inside the SNCU as the newborns are highly susceptible for infection. MNCU concept was being adopted in the DHHs depending upon the space availability.

5.1.7.4 Enhancement of bed strength

The Director of Health Services, Odisha, had forwarded proposals (March/ July 2018) to the Government, for enhancement of bed strength in selected CHCs, SDHs and DHHs, based on the IPHS norms and bed occupancy rates of hospitals, as shown in **Table 5.7.**

Table 5.7: Details of proposals to increase the bed strength

Type of Health facility	Existing capacity	Proposed bed capacity for each
Community Health Centres	6 CHCs with 30 beds	50
	54 CHCs with less than 30 beds	30
Sub-Divisional Hospitals	4 SDHs with less than 40 beds	50
	1 SDH with 10 beds	100
	8 SDHs with 40 and more beds	100
District Headquarter Hospitals	1 DHH with 60 beds	150
	12 DHHs with 92 to 186 beds	200
	12 DHHs with 99 to 225 beds	300
	1 DHH with 576 beds	600

(Source: Records of the Office of the Director of Health Services)

Government had enhanced the existing bed strength of 10 DHHs, from 1,473 beds to 2,596 beds, during March 2020. The bed strength of other hospitals had not been increased.

Despite acute shortage of beds in hospitals and substantial increase in patient load, Government had not increased the bed strength of other hospitals in

compliance with the IPHS norms and National Health Policy.

In the absence of adequate bed facilities in the DHHs, patients had to either opt for private hospitals, or obtain treatment in an overcrowded environment, in Government hospitals. The patients treated in congested / crowded areas, were also at an increased risk of hospital induced cross-infections.

The H&FW Department stated (February 2023) that necessary steps were being taken for augmentation of hospital beds.

5.1.7.5 Availability of beds in Medical College Hospitals

As per the Minimum Standard Requirements Regulation (MSRR) of NMC, a minimum of 470 beds, with 19 units (up to 30 beds in each), are required for admission of 100 students, annually. Similarly, 1,100 beds, with 37 units, are required for admission of 250 students, annually.

Audit noticed that there was a shortage of sanctioned beds in the two test-checked MCHs, as discussed below:

- In PRM MCH, 470 beds were available in 17 units, resulting in shortage of one unit each in two departments, namely, General Medicine and General Surgery. These two departments had three units each, with 40 beds, against the prescribed norm of four units each, with 30 beds, which carried the risk of higher levels of patient crowding.
- In MKCG MCH, although UG seats had been increased to 250 from FY 2016-17, Government had sanctioned only 908 beds, against the requirement of 1,100 beds. However, 1,259 beds were found functional in the MCH.

  Compared to the bed strength, there was a shortage of eight units, in six[125] in-patient departments, resulting in a risk of higher levels of patient crowding. The shortage of separate units was highest in the Obstetrics and Gynaecology department, due to the higher number of beds that had been made functional in each unit.

  The Dean and Principal had requested (8 June 2017) the Government for sanction of additional beds, due to enhancement of the UG, PG and DM seats, as per NMC norms. The same had, however, not been sanctioned as of July 2022.

  The H&FW Department stated (February 2023) that steps were being taken to maintain bed strength in the MCHs, as per NMC norms.

5.1.8 Availability of land and buildings

To provide comprehensive secondary healthcare services to the persons residing in a district, at an acceptable level of quality, the district hospital should have adequate infrastructure, in terms of space, circulation area, communication facilities and fire protection features, as per the IPHS norms.

5.1.8.1 Availability of land for MCHs

As per NMC's Establishment of Medical College Regulations, 1999, for

[125] TB & Chest (1 unit); Ophthalmology (1 unit); ENT (1 unit); General Medicine (1 unit); O&G (3 units); Orthopedics (1 unit)

construction of a medical college, a suitable single plot of land, measuring not less than 25 acres, should be owned and possessed by the applicant or should be possessed by the applicant by way of 99 years lease.

Audit noticed that:

- MKCG MCH, Berhampur, had ownership and possession of 166 acres of land.
- PRM MCH, Baripada, was in possession of 58.56 acres of Government land, including Jungle kisam land (Forest land), in the Rangamatia and Sankhabhanga villages. However, the MCH had neither got the legal ownership of the land nor did it have 99 years lease, for construction of the college. The CDMO, Mayurbhanj, had applied (September 2014 and July 2015) to the Tahasildar, Baripada, for settlement of the land, but the land had not been settled in favour of the Medical College (October 2022).

  Thus, the MCH had no ownership of the land, even though it had started functioning since FY 2017-18, after completion of the college building on the possessed land.

  The H&FW Department stated (February 2023) that conversion of forest land and transfer of ownership was in process.

5.1.8.2 Availability of building infrastructure in DHHs

Audit examined the availability of building infrastructure in the seven test-checked DHHs and noticed the following status (**Table 5.8**):

Table 5.8: Availability of infrastructure in the test-checked DHHs

DHH	Space for functional beds	Fire-fighting system/ equipment	Circulation area (Corridor, lift, ramp, staircase)	Telephone (Intercom)
Bhadrak	Acute shortage. The available area was only 12 *per cent* of the requirement.	Only fire-fighting extinguishers and sand buckets, were present.	Not adequate	Not available
Dhenkanal	Shortage of 47 *per cent* space.	Fire-fighting system was available.	Available	Available
Kandhamal	No shortage.	Fire-fighting system was partially available (only in the MCH building)	Available	Available
Nabarangpur	Acute shortage. The available area was only 12 *per cent* of the requirement.	Under construction	Available	Available
Nuapada	The available area was 73 *per cent* of the requirement.	Available	Available	Available
Puri	No shortage	Available	Available	Available
Sundargarh	The available area was 78 *per cent* of the requirement.	Available	Not adequate	Not available

(Source: Data obtained from the test-checked hospitals and Joint Physical Inspection)

Thus, the DHHs of Bhadrak and Nabarangpur had acute shortage of space for functioning of the hospitals. Further, the DHHs of Bhadrak and Sundargarh did not have an adequate circulation area.

5.1.8.3 Provision of staff quarters

IPHS norms prescribe that staff quarters should be provided at the healthcare

facilities, for accommodation of staff, including doctors, nurses, paramedics, *etc*.

Audit examined the availability of staff quarters, in the test-checked DHHs, and noticed the position given in **Table 5.9**.

Table 5.9: Availability of residential quarters in the test-checked DHHs

DHH	Number of staff quarters available	Number of staff members, who were allotted quarters	Number of staff members, who were not allotted quarters
Bhadrak	11	10	120
Dhenkanal	24	20	168
Kandhamal	47	46	120
Nabarangpur	88	82	155
Nuapada	76	72	20
Puri	21	16	266
Sundargarh	45	44	130
Total	**312**	**290**	**979**

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

Thus, only 312 staff quarters were available in the seven test-checked DHHs, of which 290 had been allotted to the staff. The remaining quarters were either in an uninhabitable condition or were being utilised for other purposes. About 979 staff, including doctors, staff nurses, paramedics, *etc*., had not been provided with residential accommodation, in the test-checked DHHs. The availability of residential accommodation was lower in three DHHs (Bhadrak, Dhenkanal and Puri), compared to other test-checked DHHs.

In the 14 test-checked CHCs, 199, out of 253 residential quarters, had been allotted to staff. Of the remaining 54 quarters, 42 were in a damaged condition and 12 were lying vacant due to lack of applicants/ staff in four CHCs. Further, 62 staff members, in six CHCs, had not been allotted residential quarters.

In the 14 test-checked PHCs, 65 residential quarters were available in 13 PHCs, while one PHC (Fakirsahi) had no residential quarters. Out of the 65 quarters, only 46 had been allotted to staff. The remaining quarters were either in a damaged condition or were lying vacant. Four residential quarters, constructed at PHC, Ranjabradi (Kandhamal), had been lying vacant since their completion, due to lack of water supply.

Due to non-availability/ non-occupation of government accommodation, the staff had to reside outside the hospital vicinity. As such, it would be difficult for them to reach the hospital immediately, to attend to emergency cases, as and when required. Further, at the time of natural calamities like cyclones, floods, *etc.*, it would be difficult for them to reach the hospital, due to transportation problems, hampering healthcare services at times of emergency.

The H&FW Department stated (February 2023) that the buildings for staff quarters were under construction.

5.1.8.4 Residential accommodation in MCHs

As per NMC's Minimum Standard Requirements Regulations (MSRR), at least 20 *per cent* each, of the nurses, teaching and non-teaching staff, should be provided residential accommodation, in Medical College and Hospitals.

Audit observed that the residential quarters, available in the two test-checked MCHs, were not adequate for providing accommodation to their staff, as discussed below:

PRM MCH, Baripada

- Only 84 (14 *per cent*) staff quarters were available for 613 nurses, teaching and non-teaching staff.
- None of the 222 staff nurses had been provided with residential accommodation, although at least 20 *per cent* of them were to be allotted staff quarters, as per NMC norms.
- Only 49 (16 *per cent*), out of 306 non-teaching staff, had been allotted staff quarters. However, 26, out of the 85 teaching staff (31 *per cent)*, had been provided residential accommodation.

MKCG MCH, Berhampur

- For the 1,306 staff working in the MCH, only 188 (14 *per cent*) staff quarters were available.
- Only 29 (4 *per cent*), out of 689 staff nurses, had been allotted staff quarters.
- 54 (16 *per cent*), out of 348 teaching staff, had been allotted staff quarters, while 87 (32 *per cent*), out of 269 non-teaching staff, had been provided residential accommodation.

Thus, residential accommodation, available in both the test-checked MCHs was quite insufficient, to house all the staff, including staff nurses.

The H&FW Department stated (February 2023) that the residential accommodation to staff nurses and non-teaching staff would be provided in the Nursing Block, which was under construction in the hospital campus.

5.1.8.5 Hostel accommodation in MCHs

As per Clause B.12 of MSRR, each hostel room should not have more than three occupants.

Audit noticed insufficiency of hostel accommodation, in both the test-checked MCHs, as discussed below:

- **MCH, Baripada:** Due to increase in the students' strength of the college, from 100 (2018-19) to 125 (2019-20), four students were accommodated in each room of the hostel, instead of three. Further, 35 girl students of the 2021-22 batch were provided accommodation in five staff quarters.
- **MCH, Berhampur**: Two old hostel buildings had been declared structurally damaged and unsafe, as per the proceedings of the joint site visit of the Director of Medical Education and Training (DMET), Odisha and the Engineer-in-Chief (Buildings), in February 2021. Despite that, 121 students were staying in the damaged hostel building, as noticed during joint physical inspection (1 August 2022) conducted by Audit along with MCH staff.

Hostel No. 2 (Gents) in damaged condition and declared unsafe, where 121 students were staying (1 August 2022)

Thus, hostel accommodation facilities, in both the MCHs, were insufficient, due to which, the students were constrained to stay in the staff quarters and unsafe buildings.

The H&FW Department stated (February 2023) that the budget provision had been made for construction of both the boys' and girls' hostel buildings, which would commence after completion of the tender process.

5.1.8.6 Deficient infrastructure for Dietary services

As per Kayakalp guidelines[126], 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 noticed that dietary services were being provided, in the test-checked DHHs/MCHs, by outsourced agencies. These dietary services were, however, deficient, as discussed below:

- **Infrastructure:** As per the National Building Code, kitchens, with fuel supply (gas cylinders), should not be located in the basement. During JPI, Audit found that:
    - The kitchens at the DHHs, Kandhamal and Nabarangpur, were running in the basement of the hospital building**.**
    - The kitchen at DHH, Bhadrak, was running by means of covering an open space, with steel/tin plates, from all sides, due to shortage of space.
    - At DHH, Dhenkanal, the kitchen was functioning in the vending zone.

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

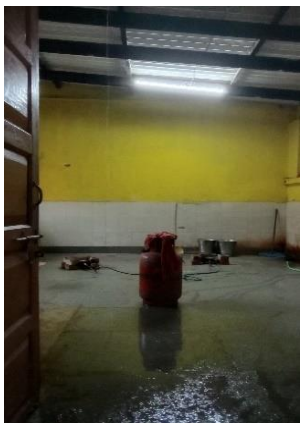
Kitchen shed for preparation of food, at DHH, Bhadrak (23 May 2022)

Vending zone used as kitchen, at DHH, Dhenkanal (30 March 2022)

- In both the test-checked MCHs, in-house kitchens, with asbestos roofs, were running in the basement. The roofs of the kitchens, at both the MCHs, were in a dilapidated condition, due to the seepage of rain water. The floor of the kitchen at PRM MCH was lower than the adjacent road level. Resultantly, rain water and drain water flowed into the kitchen area, creating an unhygienic environment. One pillar of the kitchen was in a damaged condition, with the possibility of collapsing any time.

Damaged pillar of kitchen, at PRM MCH, Baripada (30 April 2022)

Damaged floor of the kitchen, at PRM MCH (30 April 2022)



Water logging on the floor of the kitchen, at MKCG MCH (14 July 2022)

- **Preparation, handling, storage facility:** As per Kayakalp guidelines, proper hygiene and an infection-free environment should prevail in the kitchens. Further, there should be covered trolleys for food distribution, a separate room for storage[127], adequate supply of treated water and refrigerators, for storage of food items.

  During JPI of the kitchen at DHH, Bhadrak, no racks were found, for storage of rations and other material. The kitchen material was stored on the floor of the room. No refrigerator was available. Though one serving trolley was available, it was not being put to use, due to the non-existence of ramps and lifts to all the wards. Instead, steel buckets were

[127] Separate room for storage of raw material and vegetables, with appropriate numbers of refrigerators, racks, *etc.*

being used for serving meals. At DHH, Sundargarh, the available space for storage of the kitchen materials was inadequate, even though a dedicated room was being used for the purpose.

- **Hygiene and sanitation:** At DHH, Bhadrak, an open drain, from the hospital side, passed through the kitchen area, which was found blocked during JPI (23 May 2022). As such, there was every possibility of overflow/flooding of drain water, into the kitchen (cooking area), during rain. Utensils were also being washed near/ beside the open drain.

  Further, the spaces being used for washing of utensils, at MCH Baripada and the DHHs of Dhenkanal and Sundargarh, were also not clean and hygienic. Gathering of waste material was noticed in one corner of the kitchen, at PRM MCH. Cooked food was also found to have been kept in uncovered utensils, compromising the health and hygiene of the patients.

Washing area of utensils, at DHH, Sundargarh (16 July 2022)

Blocked open drain, passing through the kitchen and washing area for utensils, at DHH, Bhadrak (30 May 2022)

Uncovered food, at MKCG MCH (14 July 2022)

Food containers kept open and food packed in polythene bags for supply to patients, at MKCG MCH (14 July 2022)