

CHAPTER 4

Availability of Drugs, Medicines, Equipment and Other Consumables

Government was not entirely successful in providing an unbroken supply of essential drugs to patients in public health facilities, in terms of its own prescribed essential/critical drug list. Monitoring/supervision of the supply chain of drugs and medical consumables was inadequate, leading to exhaustion of stocks of essential medicines, as well as expiry of drugs. Norms and parameters, prescribed for storage of medicines, were not followed, for ensuring efficacy of the medicines procured.

Medical equipment/ devices are essential for providing quality healthcare services in public health facilities. Hospitals were not fully equipped with essential equipment, in terms of IPHS/NMC norms. Equipment and medical devices were lying idle/ non-functional, in hospitals, due to non-provisioning of the required infrastructure and manpower. Non-availability and idling of equipment impacted the delivery of health services in hospitals, as well as medical education in the MCHs. There were instances of violation of extant rules and provisions, in the procurement of Equipment, Instruments and Furniture by the MCHs.

Most of the emergency equipment, such as ventilators, Oxygen Concentrators, *etc.*, procured for managing emergent situations, was lying idle, due to non-provisioning of infrastructure and manpower.

The accessibility, availability and affordability, of safe, good quality drugs, are essential for a good public health system. Government of Odisha launched (2015), the 'Free Medicine Distribution Scheme' in the State, for providing essential medicines⁸⁰, for different kind of diseases, free of cost, to patients coming to public health facilities. The procurement and distribution of drugs, medicines, surgical items, medical equipment, *etc.*, for the health facilities in the State, is entrusted to the OSMCL. OSMCL is responsible for the timely procurement of medicines, surgical and EIF (Equipment, Instrument and Furniture), as well as management of central drug warehouses, for ensuring the smooth flow of drugs and EIF to health institutions, through a centralised online inventory management system. OSMCL developed (April 2017), the *e-Niramaya* software application, to automate the supply chain management, *i.e.* procurement, distribution and quality control, of drugs and medical consumables.

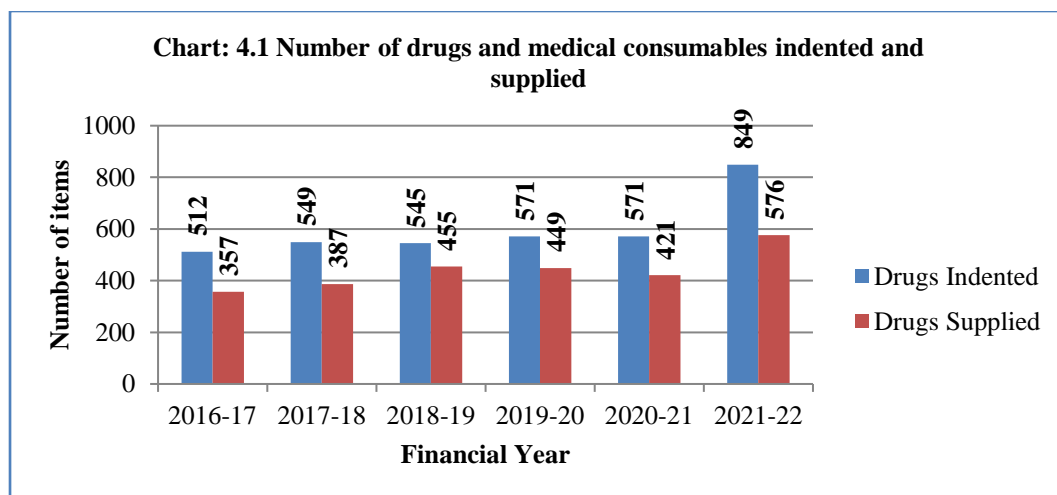
⁸⁰ Essential medicines are those that satisfy the needs of the majority of the population. They should be available at all times, in adequate quantities and in proper doses; they should be rational (*i.e.*, appropriate prescribing, dispensing and patient use), and of proven therapeutic value and safety

Audit had examined the procurement and distribution of drugs, medical consumables and equipment, by OSMCL, for the period from FYs 2016-17 to 2018-19, and the relevant audit observations thereon were contained in C&AG's Audit Report (G&SSA) for the year ended March 2019 (*Paragraph 2.1*). In the present Performance Audit, the availability and utilisation of drugs, medical consumables and equipment, in public health facilities, have been examined. The related audit observations are discussed in the succeeding paragraphs.

4.1 Indent and supply of essential drugs and medical consumables

As per the 'Guidelines on Procurement Planning and Management of Drugs and Medical Consumables' (2015) issued by the Government of Odisha, the health facilities, at the block/ district/ medical college level, should forecast the annual requirement of various medicines, based on the Essential Drug List (EDL) and Standard Treatment Guidelines and submit it to OSMCL. Each health institution is required to prepare an annual indent, considering the consumption pattern, natural calamities, ongoing health programmes, *etc.* OSMCL is, therefore, required to compile all the annual indents, received from the health institutions, and forward to the State Drug Management Unit for analysis. After analysis, the SDMU, would prepare the draft Annual Procurement Plan (APP) for drugs and medical consumables, for the ensuing financial year, and place the APP before the State Drug Management Committee, for approval. After approval of the APP by the SDMC, OSMCL is required to procure the drugs and medical consumables and supply them to the health institutions, for distribution to patients.

Audit observed that the indented quantity of drugs and medical consumables had not been supplied by the OSMCL, to the health facilities, during FYs 2016-17 to 2021-22, as shown in **Chart 4.1**.



(Source: Data supplied by OSMCL)

It was observed that there was short supply of essential drugs and medical consumables to the health facilities. Against the indent of 512 to 849 kinds of medicines and consumables, 357 to 576 items were procured and supplied for distribution to patients, during the period from FYs 2016-17 to 2021-22, which was about 68 to 83 *per cent* of the requirement. OSMCL attributed the short supply of essential drugs to health facilities, to single bids/ non-responsive bids and partial execution of purchase orders.

Further, out of 2,219.28 crore units of essential drugs and consumables, indented during FYs 2016-17 to 2021-22, OSMCL could supply only 1,044.64 crore units, which was only 47 per cent of the requirement. Thus, there was short supply of 53 per cent of the indented quantity, which ultimately led to exhaustion of stocks of these medicines, in hospitals.

Details of the essential drugs and medical consumables, supplied to the test-checked hospitals, during the period from FYs 2019-20 to 2021-22, are given in **Table 4.1**.

Table 4.1: Supply of essential drugs/ medical consumables, during FYs 2019-20 to 2021-22

DHH	Drugs and medical consumables approved		Drugs and medical consumables supplied		Short supply	
	Number of items	Quantity (in crore)	Number of items	Quantity (in crore)	Number of items	Quantity (in crore)
Bhadrak	1,433	56.95	944	23.56	489	33.39
Dhenkanal	1,329	32.90	982	20.2	347	12.7
Kandhamal	1,441	28.71	944	13.08	497	15.63
Nabarangpur	2,473	28.84	1,553	21.11	920	7.73
Nuapada	1,410	16.87	919	8.83	491	8.04
Puri	1,275	NF*	1,150	NF*	125	NF*
Sundargarh	1,165	48.12	1,002	22.53	163	25.59
MCH, Baripada	1,318 ⁸¹	7.61	768	2.75	550	4.86
MCH, Berhampur	2,708	20.17	2,380	17.10	328	3.07
Total	14,552	240.17	10,642	129.16	3,910	111.01

(Source: Records of the test-checked hospitals and e-Niramaya database)

*NF: Data not furnished to Audit.

Thus, against the approved quantity of 240.17 crore units of 13,277⁸² essential drugs and medical consumables, only 129.16 crore (54 per cent) units were supplied to the test-checked districts. It was further observed that the supply of drugs to the health facilities was not rational, as instances of short and excess supplies were noticed, against the requirement/ indented quantity. This contributed to exhaustion of stocks of essential medicines, and expiry of drugs at the hospital level, as discussed in the subsequent paragraphs.

The H&FW Department stated (February 2023) that steps were being taken to enquire into the matter and check the discrepancies.

4.1.1 Irrational supply of essential drugs and medical consumables

Essential drugs and medical consumables should be supplied to the health facilities as per the approved indents. On analysis of the data made available to Audit and scrutiny of the e-Niramaya database for the period⁸³ 2019-22, Audit found that there was short and excess supply of essential medicines, compared

⁸¹ This relates to two financial years, i.e. 2020-21 and 2021-22, as data for previous years was not provided to Audit.

⁸² Excluding Puri district (14,552 minus 1,275)

⁸³ Data on the e-Niramaya database was not made available to Audit for the period from 2016-17 to 2018-19.

to the approved/ indented quantities, as detailed in **Appendix 4.1**. Audit further observed the following:

- Shortages of 30 to 73 *per cent* of the approved quantities/ units, of 205 to 564 kinds of essential drugs, were noticed in the test-checked DHHs, during FYs 2019-20 to 2021-22. In PRM MCH, the shortage was 38 to 45 *per cent*, while it was 7 to 14 *per cent* in MKCG MCH. Such short supplies led to exhaustion of stocks of essential drugs in the district.
- 18 to 123 kinds of drugs were supplied in excess of the approved quantities. The excess supply ranged between 40 and 297 *per cent*, during FYs 2019-20 to 2021-22, and led to overstocking at the district drug warehouses (DWHs), resulting in shortage of space for storage, compounded with expiry of essential medicines, as discussed in **Paragraph 4.1.6**.
- There was no supply of 82 to 504 kinds of medicines and medical consumables, during FYs 2019-20 to 2021-22. Short supply and nil supply of drugs led to local procurement by the DHH, involving higher expenditures, as compared to the price approved by the OSMCL, as pointed out in **Paragraph 2.1.7** of the C&AG's Audit Report (G&SSA) for the year ended March 2019.
- Data for FYs 2016-17 to 2018-19, was not made available to Audit for scrutiny, on the ground that it was not available in the *e-Niramaya* database.

Thus, supply of drugs and medical consumables was not in line with the approved indents/ requirement, indicating deficient monitoring by OSMCL and hospital authorities.

The H&FW Department stated (February 2023) that the matter would be enquired and discrepancies would be checked.

4.1.2 Stock-out of essential and critical drugs

Based on the EDL, the minimum stocks, to be maintained at various levels of healthcare facilities, have been prescribed (as given in **Table 4.2**) by Government, to avoid stock-out or over-stocking of any drugs and medical consumables.

Table 4.2: Minimum stock of drugs, required to be available in hospitals

Healthcare facility	Number of Essential drugs to be available		Minimum stocks to be maintained
	2016-17 to 2019-20	2020-21 to 2021-22	
DHHs	263	542	One month's stock
CHCs	172	542	Two months' stock
PHCs	87	295	Three months' stock

(Source: Data furnished by OSMCL)

Audit analysed the data provided by the test-checked healthcare facilities and found that essential drugs were not available in the test-checked hospitals, during the sampled months. This was due to non/ short supply of indented drugs, by OSMCL. Further, the drugs procured locally were inadequate to replenish

the shortages. The stock-out position of essential drugs, in the DHHs/ MCHs, in the sampled months, is given in **Table 4.3**.

Table 4.3: Non-availability of essential drugs in the test-checked hospitals

DHH/MCH	Percentage of stock-out medicines in the sampled months					
	May-16	Aug-17	Nov-18	Feb-20	May-20	Aug-21
Bhadrak	27	24	27	26	62	68
Dhenkanal	48	27	31	24	57	59
Kandhamal	14	20	10	5	16	15
Nabarangpur	2	2	2	3	1	1
Nuapada	58	38	24	18	62	59
Puri	0	22	5	6	4	2
Sundargarh	14	11	16	12	53	49
MCH, Baripada	NA	5	6	3	6	5
MCH, Berhampur	19	19	14	25	12	11

(Source: Records of the test-checked hospitals and district Drug Ware Houses)

(Red colour: More than 50 per cent stock out; light red: less than 50 per cent stock out)

Thus, stock out of essential drugs, was more in four of the test-checked DHHs⁸⁴, during May 2020 and August 2021, as compared to other the test-checked hospitals. Essential drugs like Chlorpheniramine Maleate tablet (anti-allergic drug), Clopidogrel tablet (anti-anginal drug), Dexamethasone tablet (anti-allergic drug), Betamethasone, Sodium Phosphate injection (anti allergic), *etc.*, were not available in the test-checked hospitals, during the sampled months.

In the 14 of the test-checked CHCs, 16 to 72 *per cent* of essential drugs were not available in 13 CHCs, on an average, during the sampled months of 2016-22. In Kosagumuda CHC, only two *per cent* of essential drugs were reported to be not available.

4.1.3 Non-availability of critical drugs

Government of Odisha had listed out (November 2018) 106 critical drugs, which were to be made available at all health facilities in the State, at all times. Audit found that, during 2018-22, 3 to 59 critical drugs were not available in the test-checked hospitals, for distribution to patients, for 3 to 410 days, as detailed in **Table 4.4**.

Table 4.4: Stock-out of critical drugs in the test-checked hospitals (period in days)

DHH/MCH	2017-18		2018-19		2019-20		2020-21		2021-22	
	No. of drugs	Stock out period	No. of drugs	Stock out period	No. of drugs	Stock out period	No. of drugs	Stock out period	No. of drugs	Stock out period
Bhadrak	NA	NA	15	31-410	15	23-163	8	28-212	20	14-243
Dhenkanal	47	30-365	14	30-365	8	60-270	4	90-365	17	30-365
Kandhamal	11	30-365	14	30-365	12	30-300	11	30-150	8	30-244
Nabarangpur	0		0	0	0		0		0	0
Nuapada	12	60-210	10	30-120	9	30-210	5	30-365	3	30-120
Puri	0		0		0		0		6	30-365

⁸⁴ DHHs: Bhadrak; Dhenkanal; Nuapada and Sundargarh

DHH/MCH	2017-18		2018-19		2019-20		2020-21		2021-22	
	No. of drugs	Stock out period	No. of drugs	Stock out period	No. of drugs	Stock out period	No. of drugs	Stock out period	No. of drugs	Stock out period
Sundargarh	14	92-365	13	91-365	18	91-365	13	90-365	12	121-365
MCH, Baripada	14	15-273	26	28-365	39	13-345	5	31-365	11	28-365
MCH, Berhampur	43	9-320	59	6-317	34	8-339	24	4-189	28	3-365

(Source: Stock Ledgers of the test-checked DHHs and MCHs)

Audit noticed non-availability of critical drugs like Cefadroxil (250 mg) tablet, Drotaverine (40 mg) tablet, Glimepiride (2 mg) tablet, Nifedipine SR (20 mg) tablet, etc., for more than six months, in the test-checked hospitals.

In eight⁸⁵ of the test-checked CHCs, 11 to 35 critical drugs were out of stock, for periods ranging from 8 to 366 days, on an average, during FYs 2019-20 to 2021-22. In six other test-checked CHCs, two to nine critical drugs, on an average, were not available, during FYs 2019-20 to 2021-22.

Due to non-availability of essential/critical drugs in the hospitals, the patients would have either not been prescribed these medicines, or would have had to purchase the same from local markets, incurring out of pocket expenditure. This defeats the objective of the 'Free drug distribution scheme', which aimed to provide all essential medicines, to patients, free of cost.

The H&FW Department stated (February 2023) that the matter would be inquired into and discrepancies would be checked.

4.1.4 Drug dispensing

The Guidelines on Procurement Planning and Management of Drugs, 2015, issued by the Government of Odisha, provide that drugs should be distributed through drug dispensing counters (DDCs). The DDCs are required to dispense medicines only against prescriptions, after capturing data relating to the prescriptions and the drugs dispensed there against, in the system, for reference. Data captured at the DDCs is to be analysed centrally, to monitor consumption patterns and prescription practices. The DDCs are to be managed by the computer knowing pharmacists. There should be one DDC for 200 patients in DHHs, as per the IPHS 2012.

On scrutiny of records and joint physical inspection conducted (May-July 2022) by Audit along with the hospital staff, it was noticed that one to six DDCs were functioning in the test-checked DHHs, as detailed in **Table 4.5**.

⁸⁵ Barapada; Basudevapur; Khajurikata; Kuarmunda; Lahunipada; Sriramchandrapur; Komana; Khariar Road

Table 4.5: Availability of DDCs in the test-checked DHHs

DHH/MCH	Average OPD patients per day ⁸⁶	Requirement	Number of DDCs
Bhadrak	930	5	4
Dhenkanal	860	4	2
Kandhamal	589	3	2
Nabarangpur	234	1	1
Nuapada	263	1	2
Puri	1,338	6	6
Sundargarh	637	3	6
MCH, Baripada	1,213	6	3
MCH, Berhampur	2,246	11	6

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

(Red colour: Shortage of DDCs; Green colour: No shortage)

It would be seen from the above that there was a shortage of DDCs in five of the test-checked DHHs and MCHs, compared to the prescribed norms. Further, the DDCs of DHH, Sundargarh and Bhadrak, lacked infrastructure for smooth dispensing of drugs to patients, as discussed below:

- Out of the six DDCs at DHH, Sundargarh, two were functioning in the Mother and Child Healthcare building and four in the main building of the hospital. Only two computers/ systems, with scanners, had been provided to cater to the needs of all these six DDCs. The entire data capturing and scanning work was being carried out by these two systems, despite six counters being physically earmarked. Thus, creation of six DDCs, without provisioning the necessary infrastructure, proved to be futile.
- Due to non-availability/ improper functioning of computerised systems, including scanners, at DHH, Bhadrak, data capturing and prescription scanning, was being done only intermittently. Resultantly, monitoring of consumption patterns and prescription practices, was not carried out and prescription audit was hampered.
- Drugs in the DDCs of DHH, Bhadrak, were not being stored in containers/ tray/ crash carts and were not labelled. Non-labelling and unscientific storage resulted in more time being taken for dispensing of drugs. Unscientific storage and improper functioning of DDCs, contributed to a long waiting for patients who were waiting to collect drugs, as 800-900 patients were receiving drugs daily, on an average, in the DHH.
- Two out of the three DDCs in PRM MCH, did not upload prescriptions in the Niramaya database and prescription scanning had been discontinued in all the three DDCs, since July 2020.

Out of 71.33 lakh OPD patients, registered in both the MCHs, during FYs 2016-17 to 2021-22, only 25.13 lakh (35 per cent) patients had been distributed medicines, as per the data provided by the MCHs. The remaining 65 per cent

⁸⁶ The average patients per day, computed by taking into consideration the OPD patients of the hospitals, during 2016-22

OPD patients had not been distributed free medicines in these two MCHs. This indicated the material risk that these patients could not avail free medicines either due to stock out of required drugs or due to the long waiting time at the low number of DDCs.



OPD patients waiting at the DDC of DHH, Bhadrak, for collecting drugs (4 June 2022)



OPD patients waiting at DDC of DHH, Dhenkanal, for collecting drugs (9 May 2022)

Thus, the drug dispensing system in the test-checked hospitals was not adequate and effective, leading to high waiting times for patients to receive their prescribed medicines.

The H&FW Department stated (February 2023) that instructions were issued for maintaining adequate and effective drug dispensing system in DHHs and MCHs.

Recommendation 4.1

OSMCL may put in place a real-time Inventory Management System, with deployment of Point-of-Sale Terminals, at all DDCs, to clearly establish the actual availability of stocks of medicines, at all the hospitals and PHCs, on a real-time basis, for use by both the officials of the Corporation, as well as the healthcare facilities. Besides, the system should also enable a two-way communication and/ or workflow system, to assess and communicate the requirements, in the event of medicines getting exhausted earlier than the estimated time, due to heavy demand, or in case of medicines being over-stocked, due to slow movement/ demand, etc.

4.1.5 Storage of drugs and medical consumables

As per the ‘Policy on Free Distribution of Medicines at Government Hospitals’ issued (2013) by the Government of Odisha, “adequate infrastructure shall be created by the Department at different levels for central warehousing including cold-chain facility for safe storage of drugs and other medical consumables”. The NHM Assessor’s Guidebook prescribes certain parameters for the storage of drugs in stores, to maintain the efficacy of the procured drugs, before they are issued to patients.

Audit observed that storage of drugs, at drug warehouses and drug stores, was not in consonance with the prescribed norms and parameters. The deficiencies/shortcomings, in the storage facilities within the District Warehouses (DWHs) and sub-stores are given in **Table 4.6**.

Table 4.6: Deficiencies in the storage of drugs

Parameters	Audit observations	Expected impact
Labeled shelves/racks	Labeling was done at all the test-checked DWHs, except Bhadrak, where it was partial and the sub-store of PRM, MCH. The space available for storage of drugs was insufficient at DHHs, Bhadrak, Kandhamal, Nabarangpur, Nuapada and Puri.	Shortage of space and racks would lead to unscientific storage of drugs <i>i.e.</i> , piling of drug packets (boxes) one above the other, leading to high turnover time in the distribution of drugs and the possibility of damage to the stored drugs.
Designated area for controlled, dangerous and restricted medicines	No designated area was available at DHH/DWH, Bhadrak.	Unauthorised access to the dangerous drugs
Separate shelf/rack for storage of expiry/ NSQ drugs	Drugs were stored at different places at DWH, Bhadrak, due to want of space. No earmarked space was available at two MCHs.	Mixing of expired drugs with other useable drugs
Drugs stored on the floor and adjacent to walls	Drugs were found to be stored on the floor and adjacent to the walls at the DWHs and sub-stores, in all the test-checked DHHs and MCHs.	Loss of efficacy and shelf life of drugs as the required temperature was not maintained.
Air conditioned pharmacy	Air conditioning of pharmacies was not in place at DHHs, Dhenkanal, Kandhamal, Nabarangpur, Puri and MCH, Baripada. ACs, though available at Bhadrak, were not functioning.	
Availability of cold-chain storage/system	Available in DWHs of all the test-checked districts.	
Maintenance of temperature chart of deep freezers	Records not available in any of the test-checked DWHs/ DHHs.	
24-hour temperature recording of cold storage area	Not maintained in any of the DWHs/ DHHs	

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

Audit observed that:

- Drugs and medical consumables were stored unscientifically in all the test-checked DHHs. The storage facility for drugs and medical consumables, at DHH/ DWH, Bhadrak, was highly inadequate, due to receipt of huge quantities of programme drugs⁸⁷, coupled with non-disposal of NSQ/ expiry drugs.
- Temperature charts, for deep freezers, were not maintained at all DHHs, even though cold chain systems were available in all the test-checked DHHs. Due to the absence of trained personnel at DWH, Bhadrak, one

⁸⁷ Drugs related to disease control programmes which are under implementation in the State

outsourced person (watchman), deployed at the DWH, was looking after the cold chain operations.

- The DWH building at Bhadrak was a two-storied building, without any firefighting system. Only two fire extinguishers were available for fire safety. In the other test-checked DHHs/ DWHs, only fire extinguishers were available, but no firefighting system had been installed.
- One old building, at a distance of 500 meters from the DHH, Bhadrak, was being used as a store room. Drugs and medical consumables were found to have been stored on the floor, staircase, *etc.* There was no security arrangement, despite the fact that the building was located at a distant place, leading it vulnerable to the risk of theft and loss of government property.
- No dedicated sub-store was available in PRM MCH. The sub-store had been functioning in an exit path of the MCH building, without any shelves/ racks, for storing drugs and consumables.



Drugs store near the toilet, at DHH, Nuapada
(7 July 2022)

Unscientific storage of drugs, at DWH, Bhadrak
(10 May 2022)

Thus, there were several deficiencies in the system of drug storage in the test-checked hospitals and the prescribed parameters for the storage of drugs, as stipulated in the NHM Assessor's Guidebook, were not followed, to maintain the efficacy of the procured drugs, before they were issued to patients.

The H&FW Department stated (February 2023) that instructions were issued to the concerned authorities for scientific storage of drugs and to take appropriate steps for making available the drug storage equipment.

4.1.6 Expiry of medicines due to deficient stock management

OSMCL is responsible for management of the surplus and deficit stock of drugs and medical consumables, in the health facilities. The distribution and stock position of drugs can be monitored centrally, through the *e-Niramaya* application system, for ensuring uninterrupted supply of medicines at the health institutions. Analysis of data/ information, supplied by OSMCL, showed that 4,338 kinds of drugs (6.07 crore units), costing ₹11.68 crore, had expired during FYs 2016-17 to 2021-22. Audit also noticed that 2.90 crore units of essential drugs, costing ₹4.47 crore, had expired in the test-checked DHHs/ MCHs,

during April 2017 to March 2022. These expired drugs were lying in the district drug warehouses and sub-stores of the test-checked hospitals, as detailed in Table 4.7.

Table 4.7: Details of expired drugs

DHH/MCH	Number of drugs/ consumables	Quantity (units)	Value (₹ in lakh)
Bhadrak	160	79,85,535	99.03
Dhenkanal	167	28,91,253	27.39
Kandhamal	160	1,88,162	NA
Nabarangpur	140	5,49,281	9.39
Nuapada	298	47,47,764	50.42
Puri	218	12,18,946	15.60
Sundargarh	245	86,49,068	139.26
MCH, Baripada	76	20,45,661	69.82
MCH, Berhampur	114	6,90,329	36.34
Total	1,578	2,89,65,999	447.25

(Source: Data furnished by the seven test-checked districts & two test-checked MCHs)

Expiry of the huge quantity of drugs indicated that the indenting, distribution, consumption and stock position of drugs, was not being monitored effectively, through the e-Niramaya application. It was noticed that essential drugs had expired due to excess supply, unrealistic indenting, non-usage of drugs after procurement, etc. A few such instances are discussed below:

- In the DWHs at DHH, Bhadrak and Sundargarh, 33.53 lakh Metformin (500 mg) tablets (cost: ₹ 7.94 lakh) had expired during FYs 2020-21 to 2021-22, due to unrealistic indenting, excess supply and less consumption, as discussed below:

Table 4.8: Details of indenting, supply and utilisation of Metformin tablets

DWH/ DHH	Opening stock	Quantity of Metformin (500 mg) tablets (in lakh)				
		Indented	Supplied	Utilised	Closing stock	Expired
Sundargarh 2020-21	1.87	17.00	39.88	9.04	32.71	9.93
Bhadrak 2020-21	1.88	12.47	40.73	6.05	36.56	0.23
Bhadrak 2021-22	36.56	13.71	2.41	12.09	26.88	23.37
Total		43.18	83.02	27.18		33.53

(Source: Data provided by DHH Bhadrak and DHH Sundargarh)

During FY 2020-21, against the quantity of 29.47 lakh tablets, indented by the two DHHs (Sundargarh and Bhadrak), 80.61 lakh tablets were supplied to the DWHs, but only 15.09 lakh tablets were utilised. Thus, OSMCL had supplied 2.74 times of the indented quantity. During FY 2021-22, despite availability of 36.56 lakh tablets, DHH, Bhadrak, indented 13.71 lakh units. Thus, there was excess supply of drugs, coupled with illogical indenting by the districts.

- Indents for Cefadroxil 500 mg tablets, in two of the test-checked DHHs (Bhadrak and Sundargarh), were not rational, keeping in view the consumption of previous years. The DHHs had placed indents without considering the consumption pattern of previous years, as detailed in Table 4.9.

Table 4.9: Consumption pattern and indents of Cefadroxil 500 mg tablets (in lakh)

DHH	Opening stock	Consumed quantity (in lakh)			Indent	Consumption	Expired quantity
		2018-19	2019-20	2020-21			
Sundargarh (2020-21)	2.91	8.11	10.05		20.00	5.07	1.33
Bhadrak (2021-22)	13.93		11.04	11.12	19.23	2.17	13.10

(Source: Records of DWH and e-Nirmaya database)

During FY 2020-21, DHH, Sundargarh, indented for 20 lakh tablets, even though the consumption of this medicine was 8-10 lakh, during the previous two years. Similarly, DHH, Bhadrak, indented for 19.23 lakh tablets, during FY 2021-22, despite 10-11 lakh tablets having been utilised during the last two years. This indicated that the indenting was not based on the previous year's consumption, or on actual requirements. Resultantly, these districts could utilise only 7.24 lakh tablets, leaving huge closing stocks, including the expired quantity of 14.43 lakh tablets, costing ₹36.07 lakh, despite the fact that OSMCL had supplied only 4.46 lakh and 4.45 lakh tablets, to Sundargarh and Bhadrak, respectively, against their indents.

- DHH, Sundargarh, indented for 10,100 units of Isosorbide dinitrate (5 mg) tablets, during FY 2020-21, even though 1,000 to 2,200 tablets had been consumed during the previous two years (2018-19 and 2019-20). Against this indent, OSMCL supplied 27,200 tablets, which was 2.7 times the indented quantity. Resultantly, 20,400 units of this medicine (cost: ₹3,672) expired, as only 3,700 tablets could be utilised. Thus, irrational indenting, excess supply and less consumption, led to expiry of a substantial quantity of this critical medicine (anti-anginal), which is used to reduce chest pain.
- PRM MCH received 11 types (11,99,620 units) of drugs and consumables, by relocation from the central drug store, Bhubaneswar, during FYs 2020-21 to 2021-22. Out of these, 1,06,735 units were utilised and 10,92,885 units, costing ₹45.19 lakh, expired. These drugs had not been indented by the PRM MCH, as they were not required for its store.

Thus, there was absence/ inadequate monitoring of the supply chain of essential drugs, by the district/ State authorities, which led to expiry of huge quantities of essential/ critical medicines, at the cost of the State exchequer.

The H&FW Department stated (February 2023) that the matter would be enquired and discrepancies would be checked.

4.1.6.1 Non-disposal of expired and Not of Standard Quality drugs

As per the Drug Management Policy (2003)⁸⁸ of the Government of Odisha, the heads of health institutions⁸⁹ were required to verify the stocks pertaining to

⁸⁸ The policy of the Government of Odisha to make available good quality drugs and medical consumables as per requirement in Government health institutions.

⁸⁹ Chief District Medical Officers/ Chief Medical Officers/ Superintendents of Medical Colleges

expired/ Not of Standard Quality (NSQ) drugs and take steps for the destruction of these drugs.

Audit observed that the damaged, expired and NSQ drugs, were lying in district warehouses and MCHs, of the test-checked districts, as the concerned authorities had not disposed of these NSQ and expired drugs. Stocks of such NSQ/ expired drugs, not only caused congestion in the DWHs/ MCHs, but were also susceptible to risk of being diverted and misused later.



Although the issue of non-disposal of expired/ NSQ drugs, had been reported in the Audit Report (*Paragraph 2.1.6*) for the year ended March 2019, it had not been addressed so far.

The H&FW Department stated (February 2023) that instructions would be issued to the concerned authorities to dispose of the expired drugs, after following the guidelines and maintain the quality standards of drugs.

4.2 Equipment, Instrument and Furniture

Medical equipment/ devices assists healthcare personnel in monitoring patient health more accurately and help doctors perform various functions. To deliver assured healthcare services, necessary equipments, instruments, and furniture (EIF), should be available in health facilities in adequate quantities. Audit, however, observed various deficiencies / shortcomings, in the availability and utilisation of EIF in health facilities, as discussed in subsequent paragraphs.

4.2.1 Indent and supply of EIF

As per the Guidelines on 'Rational procurement planning and management of equipment, instrument and furniture', issued (December 2014) by the H&FW Department, the State Drug Management Unit is to compile the indents received from various health institutions and place them before the State Level Equipment Management Committee (SEMC), for finalisation of APP. The SEMC is to finalise the quantities to be procured against the quantities indented, based on the level of institutions and budgetary resources. After finalisation of the APP, OSMCL is to commence procurement of EIF and supply the same to the health institutions.

Audit observed that the SEMC had approved procurement of 5.21 lakh EIF, during FYs 2016-17 to 2021-22, against which OSMCL could procure 3.11 lakh (60 per cent) EIF only, as detailed in **Table 4.10**.

Table 4.10: Details of EIF indented and supplied during FYs 2016-17 to 2021-22

Financial Year	EIF indented/ approved	EIF for which POs placed	EIF procured and supplied	EIF installed and functional	EIF not procured/ supplied
2016-17	32,423	21,631	20,158	20,158	1,473
2017-18	41,759	3,283	3,196	3,196	87
2018-19	65,000	35,320	25,159	25,159	10,161
2019-20	1,14,650	86,864	75,648	75,648	11,216
2020-21	1,32,435	1,00,387	92,177	92,177	8,210
2021-22	1,34,461	1,30,679	94,218	94,218	36,461
Total	5,20,728	3,78,164	3,10,556	3,10,556	67,608

(Source: Data provided by the OSMCL)

As may be seen from the above, only 60 per cent of the EIF approved by the SEMC were procured during FYs 2016-17 to 2021-22. OSMCL had placed purchase orders for supply of 3,78,164 equipment during 2016-22, against which the suppliers had supplied 3,10,556 (82 per cent) equipment only. Reasons for short supply were not available with the OSMCL. In response to the audit query, OSMCL stated (October 2022) that reasons for non-supply would be enquired from the suppliers, on receipt of which, penal action, as per the terms and conditions of the POs, would be initiated.

Further, OSMCL made payments to the suppliers based on the Consignee Receipt and Acceptance Certificates, received from the hospitals/ end users. Before making payments, the actual installation and commissioning of the procured equipment, was not assured. This was apparent from the fact that many of the supplied equipment were found uninstalled and even in a packed condition, though OSMCL had reported these as having been installed and functional.

This indicated failure/ lack of internal control, in the procurement process of EIF, for securing value for government money, as the terms and conditions of the POs were neither complied with, nor was the actual functionality of equipment ensured by the OSMCL, before release of payments.

The H&FW Department stated (February 2023) that instructions were being issued to the OSMCL for release of payment to the suppliers after receipt of confirmation on installation and proper functioning of the equipment.

4.2.2 Availability of equipment in the test-checked DHHs

IPHS has prescribed norms of equipment, for hospitals (DHHs/ CHCs/ PHCs) under different categories, based on the number of beds, keeping in view the assured services recommended for various grades of the health facilities.

Audit observed that there was shortage of various types of equipment, for performing surgical and medical interventions, in the seven sampled DHHs, in comparison with the IPHS norms. Details of the category/ service-wise availability of equipment, are given in **Table 4.11**.

Table 4.11: Availability of equipment in the test-checked DHHs

Category-wise equipment	Percentage of availability of equipment in the test-checked DHHs						
	Bhadrak (336)	Dhenkanal (300)	Kandhamal (236)	Nabarangpur (252)	Nuapada (315)	Puri (451)	Sundargarh (330)
OT	54	50	83	54	54	65	73
Endoscopy	0	0	0	29	0	29	29
Immunisation	73	80	73	60	73	60	80
Cardiopulmonary	80	57	50	29	53	100	80
ENT	0	11	11	44	28	39	39
Labour, Neo Natal & SNCU	63	52	70	41	78	52	74
Imaging Equipment	71	83	67	83	43	29	57
X-ray Accessories	75	63	88	88	50	75	63
Eye	84	71	71	79	80	76	96
Dental	91	53	38	82	44	56	26
Laboratory	37	32	30	30	38	37	33
Surgical	11	23	21	47	9	23	26
Anesthesia	59	36	50	68	55	59	36
Post Mortem	13	75	75	50	13	38	63

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

(Yellow colour: Non-availability; Light red: Less than 50 per cent availability; Green: 50 per cent or more availability. Figures in brackets show no. of beds available in the DHHs)

It would be seen from the above that the sampled DHHs were not fully equipped with essential equipment, in terms of IPHS norms, with the shortfall of various kinds of equipment ranging from 47 per cent in DHH, Nabarangpur, to 57 per cent in DHH, Dhenkanal.

The status of some of the commonly used equipment, available in various departments of the DHHs, is discussed below.

4.2.2.1 Availability of equipment in OTs of DHHs

Audit noticed that only 12 to 20 types of equipment were available in OTs of the test-checked DHHs, against the norm of 24 to 26 types of equipment, based on their bed strengths, as per IPHS. Non-availability of some essential equipment, in the OTs of the test-checked DHHs, is shown in **Table 4.12**.

Table 4.12: Availability of essential equipment in the OTs of the test-checked DHHs

Sl. No.	Equipment	Utility of the equipment	DHHs, where equipment was not available
1	OT Table (Paediatric)	Paediatric patients lie on an OT table, during a surgical operation	Dhenkanal, Nabarangpur, Nuapada, Puri and Sundargarh
2.	OT table (Orthopedic)	An operating table, sometimes called operating room table, required for orthopedic patients, during a surgical operation	Dhenkanal and Puri
3.	Dehumidifier	Used for protection from excessive moisture/humidity	Dhenkanal, Kandhamal, Nabarangpur and Puri
4.	Ultraviolet lamp	For disinfecting patients and operating rooms	Bhadrak, Dhenkanal, Kandhamal, Nabarangpur, Nuapada and Sundargarh

Sl. No.	Equipment	Utility of the equipment	DHHs, where equipment was not available
5.	Ethylene Oxide steriliser	(EO or EtO) gas used to sterilise objects, sensitive to temperatures greater than 60°C and / or radiation, such as plastics, optics and electrics	Bhadrak, Nuapada and Sundargarh
6.	Steriliser (Big Instruments)	Used to sterilise equipment and supplies, by subjecting them to high pressure saturated steam, at 121°C, for around 15-20 minutes	Dhenkanal, Nabarangpur, Nuapada and Puri

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

The H&FW Department stated (February 2023) that indents had not been received for the equipment shown as deficit. It further added that some of the equipment were already available in the DHHs as per Biomedical Equipment Management Maintenance Programme (BEMP) dashboard. The reply was not tenable, as the concerned authorities including DHHs should ensure physical availability of the equipment as per IPHS norms.

4.2.2.2 Availability of Equipment in Laboratory services

IPHS prescribe 60 items of essential laboratory equipment, for the district hospitals⁹⁰. Audit noticed that the full range of equipment, as per IPHS norms, was not available in the test-checked DHHs, with only 30 to 38 per cent of the requirements being available therein. It was also noticed that the equipment, though available, were lying idle in three of the test-checked DHHs, as detailed in Table 4.13.

Table 4.13: Idling of equipment

DHH	Idle equipment	Cost (in ₹ lakh)	Idle since	Reasons for idling
DHH, Bhadrak	One 5-part CBC machine	7.48	September 2021	Non-repair of the machines, even though the equipments were under warranty
	Two Electrolyte Analysers		April 2021	
DHH, Dhenkanal	Hematology Analyser (5 part)	8.83	September 2020	Want of reagents
	Auto Analyser	20.59	November 2020	
	Bio Safety Cabinet	2.26	September 2020	Excess supply
DHH, Nabarangapur	Fully Automatic Analyser	20.59	March 2021	Want of reagents
	CBC machine (5 part)	7.35	2013	Want of reagents

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

The H&FW Department stated (February 2023) that steps were being taken to issue instructions to the authorities for taking appropriate action for procurement of equipment for the laboratories, as per IPHS norms.

4.2.2.3 Shortage of equipment in Maternity Wings

IPHS prescribes 28 types of essential equipment for the labor wards, as well as for the neonatal and special newborn care units. Audit noticed that 8 to 17 types of equipment were not available in the Maternity departments of the test-checked DHHs. The maximum shortage (61 per cent) was noticed at DHH, Nabarangpur, followed by the DHHs of Puri (50 per cent), Dhenkanal

⁹⁰ District hospitals with 100 to 300 bed capacity

(39 per cent) and Bhadrak (36 per cent). Instances of non-availability of some critical types of equipment, in the test-checked DHHs, are given in **Table 4.14**.

Table 4.14: Shortage of equipment in maternity wing of the DHHs

Equipment	Utility of the equipment	DHHs, where equipment was not available
Baby incubator	An electrically-powered unit, designed to provide an enclosed controlled environment, to maintain an appropriate temperature for premature infants/ newborns, who cannot effectively regulate their body temperature	Bhadrak, Dhenkanal, Kandhamal, Nabarangpur, Puri and Sundargarh
Phototherapy Unit	A device to treat/ prevent hyperbilirubinemia (elevated serum bilirubin level).	Bhadrak, Dhenkanal, Kandhamal and Nuapada
Double-outlet oxygen concentrator	To concentrate oxygen from ambient air and deliver the concentrated oxygen.	Bhadrak, Dhenkanal and Nabarangpur
Foetal Doppler	A portable, hand-held, battery-powered device assembly, to non-invasively detect foetal heart beats, using ultrasound/ doppler technology.	Nabarangpur and Puri
Cardio-tocography monitor	Used to record foetal heart rate and uterine contractions, obtained <i>via</i> an ultrasound transducer, placed on the mother's abdomen.	Bhadrak, Dhenkanal, Nabarangpur, Nuapada and Puri
Vacuum extractor metal	Used for assisted delivery, if needed.	All DHHs
Baby Nebuliser	A device designed to generate aerosolised medication/ fluids, intended to be inhaled by a patient with respiratory disorder.	Dhenkanal and Nuapada
CPAP machine	A device to provide non-invasive respiratory support (CPAP) to newborn infants.	All DHHs, except Bhadrak

(Source: Records furnished by the DHHs and JPI)

The H&FW Department stated (February 2023) that steps were being taken to issue instructions to the authorities for taking appropriate action for procurement of equipment for the maternity wings as per IPHS norms and to use the idle equipment for patient care, at the earliest.

4.2.2.4 Equipment for the SNCU

The IPHS prescribed essential equipment for Labor ward, Neonatal and Special Newborn Care Unit (SNCU). The details of the availability of equipment are highlighted in **Table 4.15**.

Table 4.15: Availability of essential equipment in SNCU of DHHs

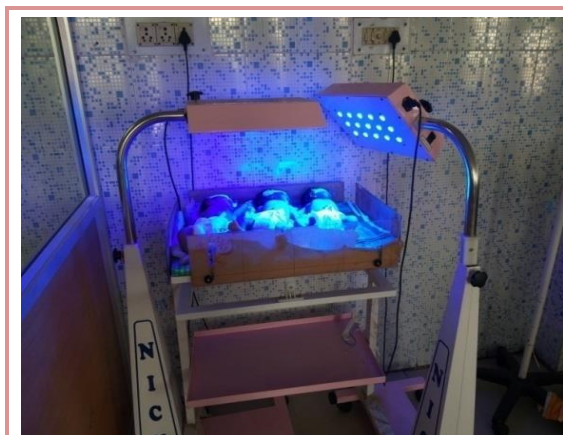
Sl. No.	Name of the equipment	Utility of the equipment	Audit findings
1	Baby Incubators	Clear boxes, which help maintain appropriate temperature and humidity levels, mainly for premature infants and other newborns, who cannot effectively regulate their body temperature	Not available in DHHs, Bhadrak, Kandhamal, Nabarangpur, Dhenkanal, Sundargarh, Nuapada and Puri
2	Baby Nebuliser	A device that turns liquid medicine into a mist, which is used to treat the swelling in child's airway, shortness of breath, coughing and wheezing	Available in all the DHHs

Sl. No.	Name of the equipment	Utility of the equipment	Audit findings
3	Radiant warmer	Electrically powered device, with a radiant heating source, intended to maintain the thermal balance of an infant	Not available in DHH, Kandhamal
4	Foetal Doppler	A hand-held ultrasound transducer, used to detect the foetal heart beat for prenatal care	Not available in DHH, Dhenkanal
5	Bubble CPAP with compressor	A non-invasive respiratory support modality, used to manage newborns with respiratory distress	Not available in DHHs, Bhadrak, Dhenkanal and Sundargarh
6	Portable X-ray machine	Mobile diagnostic X-ray system, used in a variety of routine X-ray imaging applications	Not available in DHHs Bhadrak, Kandhamal, Nabarangpur, Dhenkanal and Sundargarh
7	Haemoglobinometer	An instrument used to determine the haemoglobin content of the blood, by spectrophotometric measurement	Not available in DHHs, Puri, Nabarangpur
8	Suction machine	To aspirate fluids, secretions or other foreign material, from a patient's airway, by means of suction	Available in all DHHs
9	Glucometer	A small, portable machine used to measure glucose (a type of sugar) levels in the blood	Available in all DHHs
10	Phototherapy (Blue light)	A device to reduce the concentration of bilirubin	Not available in DHHs, Kandhamal and Nabarangpur
11	Neonatal Resuscitation kit	An essential medical device to save newborns from asphyxia at birth	Not available in DHHs, Kandhamal and Nabarangpur

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

It was found that essential equipment, like baby incubators and C-PAP machines, were not available in three SNCUs (Bhadrak, Dhenkanal and Sundargarh) and two DHHs (Kandhamal and Nabarangpur), had no neonatal resuscitation kit. DHH, Kandhamal, had no radiant warmers to maintain the thermal balance of infants. Due to the non-availability of essential equipment, the neonates were being taken either to other departments (Radiology/ Pathology departments) of the hospital, or being referred to higher facilities, to avail the required services.

It was noticed (April 2022) that 12 radiant warmers (cost: ₹ 3.20 lakh) and 3 phototherapy units (cost: ₹ 1.02 lakh), had been lying idle in the SNCU of DHH, Bhadrak, since one year, due to the shortage of manpower (doctors and staff nurses). Resultantly, the quality of services was compromised, despite availability of equipment, as three neonates were found being treated in one phototherapy unit. Similarly, 13 Oxygen concentrators, costing ₹4.39 lakh, were also lying idle, due to receipt of equipment in excess of the actual requirements.



Three neonates being treated in a single Phototherapy unit at SNCU (Step Down Ward) of DHH, Bhadrak (6 April 2022)

The H&FW Department stated (February 2023) that instructions had been issued to the DHHs to provide indents to the procurement agency to make the equipment available in the SNCUs, as per IPHS norms.

4.2.2.5 Shortage of Endoscopy equipment

Endoscopy equipment, necessary for examining the internal organs and vessels of the body, without making large incisions, were available in only three out of the seven test-checked DHHs. Although two types of Endoscopy equipment were available in DHH, Sundargarh, endoscopy services were not provided, as one equipment was not in a serviceable condition and the other had not been installed. Endoscopy services were also not being provided in two DHHs (Puri and Nabarangapur), due to shortage of manpower and the endoscopy equipment in these DHHs was lying idle.

4.2.2.6 Shortage of ENT equipment

ENT equipment was not available in the ENT clinic of the DHH, Bhadrak. However, one 'ENT examination set' and eight 'ENT Headlight Ears', were lying idle in the sub-store, without being supplied to the ENT department, despite requests from the ENT specialist. Reasons for non-supply of the ENT equipment, were not found available on record.

Thus, the full range of equipment, as required under the IPHS, was not available in any of the test-checked DHHs. Non-functioning/ idling of the equipment added to the inadequacies in delivery of essential medical services, in the hospitals.

4.2.2.7 Shortage of equipment in Blood Centres

As per the Drugs and Cosmetic Rules 1945, there should be 22 types of equipment and instruments in blood centres.

Audit noticed shortage of equipment and instruments, in the BCs at the test-checked DHHs, ranging between one and seven items of equipment⁹¹. Some of the items of equipment, not available in most of the test-checked DHHs, are discussed below:

- RH view box (having inbuilt temperature indicator), for easy, and accurate monitoring of the viewing area to provide illumination of slide contents, was not available in the BCs of four of the test-checked DHHs (Bhadrak, Dhenkanal, Kandhamal and Sundargarh).
- Serological water baths/ serologic rotators were not available in these BCs of three of the test-checked DHHs (Dhenkanal, Kandhamal and Puri).
- Blood donor couches, which make blood withdrawals easier and safer, and provide a comfortable position for donors, were not available in the BCs at DHH, Nabarangpur and DHH, Puri.

Shortage/non-availability of equipment hampers the blood collection activities in the blood centres.

⁹¹ Bhadrak:3; Dhenkanal:3; Kandhamal:2; Nabarangpur:4; Nuapada:0; Puri:7; Sundargarh:1

The H&FW Department stated (February 2023) that steps were being taken to provide required equipment to the BCs.

4.2.3 Shortage of equipment in CHCs

As per IPHS norms, 51 types of equipment should be available in the CHCs, under nine⁹² categories of services, for providing assured medical care. Audit, however, observed that the CHCs were not well equipped with the essential equipment, as discussed below:

- Surgical sets were not available in two CHCs (Barapada and Khariar Road), while, seven⁹³ CHCs had no anesthesia equipment.
- Radiology equipment was not available in eight⁹⁴ of the test-checked CHCs and three CHCs⁹⁵ had no prescribed miscellaneous equipment.
- Dental instrument, dental chair and dental X-ray machine, costing ₹6.90 lakh, supplied to CHC, Kosagumuda, during September 2019 to February 2021, were lying idle, due to non-posting of a dentist.
- Only 11 to 22 items of essential equipment were available, against the requirement of 27, in Maternity wings of the test-checked CHCs. Equipment like C-PAP machines, Cardio-tocography monitors, cardiac monitors, *etc.*, were not available.
- There was shortage of equipment for laboratory services. None of the five⁹⁶ tests under Biochemistry were being carried out in CHC, Basudevapur, due to non-functioning of the equipment (Semi Auto-analyser AGD 2020), since November 2020. This equipment was idle at CHCs, Barapada and Sriramchandrapur, due to shortage of manpower.
- Four⁹⁷ tests under Haematology and four⁹⁸ Biochemistry tests were not being conducted in CHC, Barapada, due to non-availability of a CBC machine and shortage of manpower, respectively.
- There should be 13 equipment available in an OT room of a CHC. Audit, checked the availability of nine major equipment and noted that:
 - CHC, Barapada had no equipment for OT services.
 - All the 13 CHCs had operation table (hydraulic), either major or minor.
 - An OT was functional in CHC, Khariar Road. The shadowless lamps (for eliminating shadows of medical workers), however, were not available in the OT.

⁹² (i) Surgical set (ii) Equipment for Anesthesia (iii) Neo-natal Resuscitation (iv) OT (v) Radiology (vi) Immunisation (vii) Labour room (viii) Laboratory (ix) Miscellaneous

⁹³ Baripada, Basudevapur, Sriramchandrapur, Kuarmunda, Raikia, Tikabali and Komana

⁹⁴ Baripada, Khajuriakata, Sriramchandrapur, Raikia, Khariar Road, Komana, Papadahandi and Bangurigaon

⁹⁵ Baripada, Kuarmunda and Lahunipada

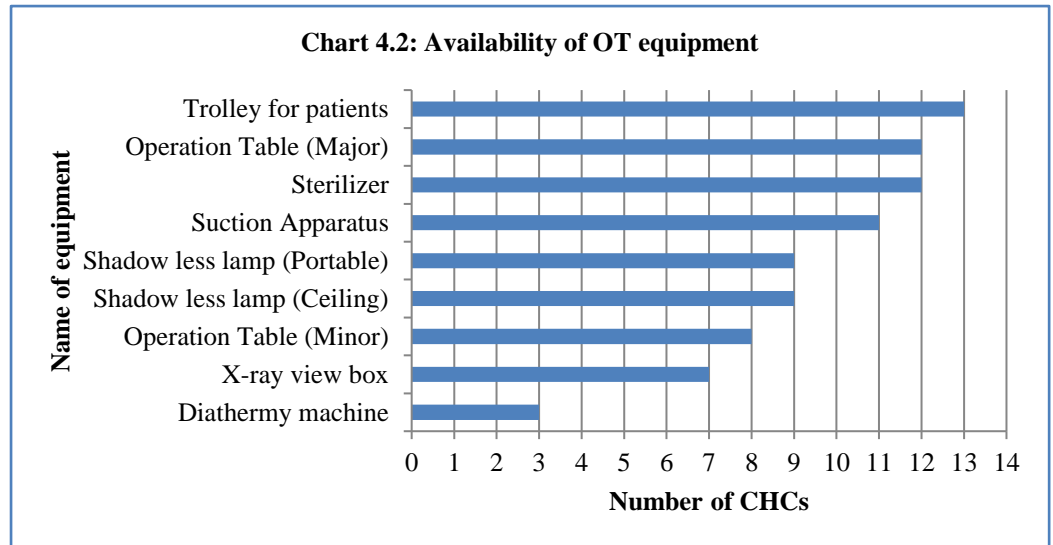
⁹⁶ (i) Blood sugar (ii) Blood urea/ Blood cholesterol (iii) Liver function test (iv) Kidney function test (v) Lipid profile

⁹⁷ (i) Total Leukocytes count (ii) Total RBC count (iii) Platelet count (iv) Packed cell volume

⁹⁸ (i) Blood urea/ Blood cholesterol (ii) Liver function test (iii) Kidney function test (iv) Lipid profile

- Diathermy machines, used to produce heat, deep inside a targeted tissue, were not available in 11 of the test-checked CHCs. These were available in CHCs of Basudevpur, Tikabali and Nimapara.

The availability of nine major types of OT equipment, is shown in **Chart 4.2**.



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

Thus, the CHCs lacked essential equipment for providing assured healthcare services in the rural areas, thereby compelling patients to visit other hospitals, including private facilities.

The H&FW Department stated (February 2023) that the concerned authorities were being instructed to take necessary action for making available the required equipment in CHCs, as per IPHS norms.

4.2.3.1 Inadequate blood storage facility in CHCs

As per IPHS guidelines, the CHCs should have blood storage facilities, for meeting the emergent requirement of blood units.

It was noticed that:

- Blood storage units were available in only five CHCs, out of the 14 test-checked CHCs. Of these five CHCs, blood storage units were functional only in two of these CHCs (Nimapara and Kosagumuda) only.
- Blood storage units in three other CHCs (Basudevpur, Lahunipara, Papadahandi) were non-operational, due to non-availability of required manpower like blood bank technicians. Consequently, the blood storage units in these CHCs had remained idle.



Blood bank refrigerator/ unit lying idle at CHC, Basudevpur since May 2019 (27 April 2022)

- The other nine CHCs had no blood storage units for meeting the urgent need of the patients.

Due to non-availability/ non-functioning of blood storage units in CHCs, patients requiring blood administration were either referred to higher facilities (DHHs/ MCHs), or were asked to arrange the blood units on their own.

Thus, blood bank services in the State were not adequate and were severely constrained by shortage of manpower, equipment, *etc.*

The H&FW Department stated (February 2023) that instructions would be issued to the concerned authorities to take steps for availability of blood storage equipment, and proper functioning of the same.

4.2.4 Availability of equipment in PHCs

Audit examined the availability of 30 types of equipment, prescribed for PHCs under IPHS, and found that none of the 14 test-checked PHCs had all the essential equipment. The availability of equipment ranged between 7 and 24 types, in the test-checked PHCs. Normal delivery kits were not available in eight⁹⁹ out of the 14 test-checked PHCs, whereas five¹⁰⁰ PHCs had no calorimeters and light microscopes.

Binocular microscopes were idle at PHC, Ertal and Sabarang, for want of manpower.

The H&FW Department stated (February 2023) that the concerned authorities were being instructed to take necessary action for making available the required equipment in PHCs, as per IPHS norms.

4.2.5 Availability of equipment in Medical College Hospitals

As per MSRR norms, 628 types of equipment should be available in 13 clinical departments of the test-checked MCHs, for providing assured medical care to patients, as well as teaching medical students. Audit observed that there was shortage of different types of equipment, in 13 clinical departments, in the two test-checked MCHs, as compared to the MSRR norms.

4.2.5.1 Clinical Departments

Audit noticed that there was shortage of equipment in 13 clinical departments of the two sampled MCHs, as compared to the NMC norms, as detailed in **Table 4.16**.

Table 4.16: Availability of equipment in the test-checked MCHs

Sl. No	Department	Required	Types of equipment in PRM MCH		Types of equipment in MKCG MCH	
			Available	Shortfall (per cent)	Available	Shortfall (per cent)
1	Medicine	53	21	32 (60)	20	33 (62)
2	Paediatric	49	31	18 (37)	44	5 (10)
3	TB and Chest	13	7	6 (46)	8	5 (38)
4	Skin & VD	8	1	7 (88)	4	4 (50)
5	Psychiatry	13	4	9 (69)	7	6 (46)
6	Surgery	42	21	21 (50)	18	24 (57)
7	Orthopaedics	25	11	14 (56)	17	8 (32)

⁹⁹ Sabrang; Ertal; Rasol; Andali Jambahal; Ranjabradi; Darlimunda; Badaninigaon; Fakirsahi

¹⁰⁰ Sabrang; Ertal; Joronda; Indragada; Tarbod

8	Ophthalmology	39	26	13 (33)	30	9 (23)
9	ENT	178	130	48 (27)	153	25 (14)
10	O & G	97	58	39 (40)	64	33 (34)
11	Anaesthesiology	51	18	33 (65)	31	20 (39)
12	Central Casualty	50	44	6 (12)	44	6 (12)
13	Radiology	10	8	2 (20)	10	0 (0)

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

- The maximum shortage of equipment (in percentage terms) was noticed in the Medicine (60 to 62 *per cent*), Skin & VD (50 to 88 *per cent*) and General Surgery (50 to 57 *per cent*) departments, of both the MCHs.
 - Echocardiography equipment, for treating heart problems; Invasive mechanical ventilator, for patients suffering from acute respiratory failure; Arterial Blood Gas analyser, for measuring oxygen/ carbon dioxide levels, *etc.*, were not available in the Medicine Departments of both the test-checked MCHs.
 - The Skin and VD departments of both the MCHs, lacked equipment like Cryotherapy with liquid Nitrogen for removal of abnormal tissue; Iontophoresis machines to treat hyperhidrosis disorder, *etc.*
 - Equipment like Cystoscope and Resectoscope, to locate and remove tissues from the urinary tract; Flexible Video Colonoscope, to diagnose and treat gastrointestinal problems; C-arm image intensifier, for intra-operative imaging, *etc.*, were not available in the General Surgery departments of both the MCHs.

4.2.5.2 Non-clinical Departments

The MSRR prescribes 469 types of equipment/ instruments, for eight non-clinical departments. Non-clinical departments of both the test-checked MCHs were not fully equipped, as per the MSRR norms of NMC/MCI guidelines. Against the minimum requirement of 469 types of equipment/ instruments, only 226 to 258 types of equipment were available, in eight non-clinical departments of both the MCHs. The maximum shortages were noticed in the departments of Micro-Biology, Forensic Medicine Toxicology, Community Medicine, *etc.*

- Equipment like fully automated immune-histo-chemistry set-up with continuous supply of important antibodies, Lymphoma panel, *etc.*, for cancer testing, fully automated flexible cover-slipping workstation, for tissue cutting embedding purpose, *etc.*, were not available in the Pathology departments of both the MCHs.
- In PRM MCH, refrigerators, centrifuges, infra-red spectrosopes, water baths for tissue floatation, *etc.*, were not available in the Forensic Medicine and Toxicology (FMT) department. The same department, at MKCG MCH, lacked an automatic tissue processing machine, deep freezer for tissue binocular research, *etc.*
- Major equipment, like barometer, chloroscope, *etc.*, were not available in the Community Medicine departments, of both the test-checked MCHs.

Thus, clinical and non-clinical departments, of both the test-checked MCHs, were not adequately equipped with essential equipment and instruments for providing quality tertiary healthcare to patients and also for the learning/research activities of the students, as envisaged in the NMC guidelines.

The H&FW Department stated (February 2023) that the concerned authorities were being instructed to take necessary action for making available the requirement equipment in MCHs, as per NMC norms.

4.2.5.3 Availability of equipment in the OPDs of MCHs

MSRR prescribes the minimum requirement of equipment, for OPDs of different clinical departments. Audit test-checked the availability of equipment/items in the OPDs of four departments (ENT, Surgery, Ophthalmology and Orthopedics), as required under MSRR, and noticed that MCH, Baripada, had only 80 (48 *per cent*) functional, items of equipment, while 101 (49 *per cent*) functional items of equipment were available in MCH, Berhampur, as detailed in **Table 4.17**.

Table 4.17: Equipment available in the test-checked MCHs

Sl. No.	OPD	Equipment in PRM MCH		Equipment in MKCG MCH	
		Required	Available (functional)	Required	Available (functional)
1	ENT	49	43	49	45
2	Surgery	30	06	40	11
3	Ophthalmology	42	29	72	41
4	Orthopedics	46	2	46	4
	Total	167	80	207	101

(Source: Information furnished by the MCHs)

- Major items of equipment, like Nasal Otoendoscopes, for providing superior quality images of the middle ear space; Nasal endoscope, for evaluating nasal mucosa; Laryngeal telescope with camera, to see the voice box (larynx) and vocal cords, *etc.*, were not available in ENT OPDs of PRM MCH.
- Equipment like Proctoscopes, to diagnose problems with the rectum and anus, were not available in the Surgery OPDs of PRM MCH.
- The Ophthalmology OPDs lacked equipment like Automated Perimeter, for testing of visual fields; Synoptophore, to assess the angle of deviation and binocular vision; Maddox wing, for testing the symptoms of diplopia (double vision), *etc.*, in both the test-checked MCHs.
- Similarly, the Orthopaedics OPDs had no Reflex hammer, for testing deep tendon reflexes, to assess the peripheral and central nervous system and Goniometer, for measuring an angle or permitting the rotation of an object to a definite position, *etc.*

In the absence of such basic equipment in the OPDs of the two test-checked MCHs, Audit was unable to derive assurance on the effectiveness of diagnosis in the OPDs, for patients, as well as on the learning environment for medical students.

The H&FW Department stated (February 2023) that the concerned authorities were being instructed to take necessary action for making available the required equipment in OPDs of the MCHs, as per NMC norms.

4.2.5.4 Availability of equipment in OTs

MSRR prescribes the minimum requirements of equipment for OTs in MCHs. Audit noticed that full range of prescribed equipment, was not available in both the test-checked MCHs, as detailed in **Table 4.18**.

Table 4.18: Availability of essential equipment in the OTs of the sampled MCHs

Department/ OT	PRM MCH (for 100 admissions)		MKCG MCH (for 250 admissions)	
	Numbers of equipment required	Shortage	Number of equipment required	Shortage
O&G	55	17	82	41
Surgery	110	79	163	129
Ophthalmology	20	12	37	26
ENT	215	70	215	64
Orthopedics	32	21	55	24
Total	432	199	552	284

(Source: Records of the test-checked MCHs)

Audit noticed that:

- There was shortage of equipment in Obstetrics and Gynaecology (O&G) OT, including shortage of Tuboplasty sets, used for treatment for repairing fallopian tubes or removing blockages; Resectoscopes used for removing tissues from inside the body for biopsy damaged tissues, *etc.*; Operative Microscopes, for providing the surgeon stereoscopic, high quality magnified and illuminated image of the small structures in the surgical area, *etc.*
- The Surgery OTs did not have equipment like Cystoscope and Resectoscopes, used for locating tumours and removing tissues; flexible video Colonoscopes, for diagnosing and treating gastrointestinal problems; C-arm image intensifiers, for intra-operative imaging during surgical, orthopedic, and emergency care procedures, *etc.*
- Equipment not available in the Ophthalmology OT of PRM MCH included Cryo Units, for surgical procedures of the eye; Glaucoma sets, for glaucoma surgery to reduce eye pressure; Entropion sets for providing support to diseased eyelids, *etc.*
- Non-availability of equipment in the Orthopaedics OT of both the test-checked MCHs, included interlock nailing sets, for the repair of traumatic long bone fractures; external fixators, for keeping fractured bones stabilised and in alignment; Pneumatic drill and reamer, for making holes in bones, for fixing immobilisation screws/ wires/ plates, *etc.*

In the absence of such basic equipment, in the five OTs of the two test-checked MCHs, Audit was unable to derive assurance on the quality of operations conducted for patients, as well as on the learning environment for medical students.

4.2.6 Idling of equipment

Audit noticed that 57 kinds of equipment, received from OSMCL, NHM, PM Cares, *etc.*, were lying in the sub-stores of three DHHs (Bhadrak, Dhenkanal and Sundargarh), without having been installed. Some instances are given in **Table 4.19**.

Table 4.19: Equipment lying in the sub-stores of the test-checked DHHs

DHH	Types of equipment	Numbers of equipment	Cost of the equipment (₹ in lakh)
Bhadrak	29	456	174.53
Dhenkanal	17	423	192.60
Sundargarh	11	747	87.07
Total	57	1,626	454.20

(Source: Records of the test-checked DHHs)

Audit observed that:

- One laparoscopic unit, costing ₹20.89 lakh, had been lying idle at DHH, Puri, since March 2006, due to want of trained technical staff. Similarly, one Remidio digital Fundus camera (₹4.97 lakh), received in DHH, Nabarangpur, in November 2021, had not been put up to use, due to non-posting of an Ophthalmologist and an Ophthalmic Assistant, in the hospital.
- Two dental X-ray machines were lying idle in the Radiology department of DHH, Bhadrak, due to want of manpower/ technicians. Dental treatment requiring X-ray services was not possible in the DHH, due to which patients were left with no option but to visit private clinics, incurring out-of-pocket expenditure.
- Eight types of Physiotherapy Equipment, procured under the National Programme for Health Care of the Elderly (NPHCE), at a cost of ₹5.50 lakh, during November 2020, by DHH, Bhadrak, were supplied to four PHCs and seven CHCs. During Joint Physical Inspection of the stores at two CHCs (Barapada and Basudevpur), these physiotherapy equipment were found lying idle, without installation, since January 2021.
- Shredders and Autoclaves, supplied to the CHCs/ PHCs for Bio-medical waste management, were lying uninstalled, for want of required infrastructure, such as buildings for housing the equipment and three-phase electricity for their functioning. Similarly, ventilators, oxygen concentrators, multipara monitors, *etc.*, supplied for Covid-19 management, remained non-functional, without having been installed, due to want of infrastructure and manpower.
- In the test-checked CHCs, it was noticed that 199 items of equipment, such as semi-auto analysers, pulse oxymeters, dental instruments, oxygen concentrators, autoclaves, *etc.*, were lying idle, due to non-provisioning of infrastructure, manpower, *etc.*

Thus, equipment and instrument had been supplied to the DHHs, without providing the required infrastructure and manpower. Resultantly, the equipment remained uninstalled, impacting healthcare services, despite the same having been reported as having been installed, by the OSMCL.

The H&FW Department stated (February 2023) that procurement of EIFs is initiated on the availability of sites, availability of trained manpower for operating the equipment, and procurement is made based on the indents received after approval of the SEMC. The reply was not tenable, as the concerned authorities should ensure availability of required equipment as per IPHS, for providing quality healthcare service to the patients.

4.2.6.1 Equipment not put to use in MCHs, after procurement

Scrutiny of records and joint physical inspection of clinical and non-clinical departments of the two test-checked MCHs, revealed that 553 items of equipment, costing ₹17.76 crore, had remained idle/ defunct, as detailed in *Appendix 4.2*.

Instances of some such items of equipment, procured and not put to use, due to want of infrastructure, mandatory permissions, reagents, *etc.*, are detailed in **Table 4.20**.

Table 4.20: Details of equipment, not put to use after procurement

Sl. No.	Equipment	Period of idling	Cost (in ₹ crore)	Purpose of procurement	Reasons for non-utilisation
PRM MCH, Baripada					
1	15 Dale's Bath, 3 Operation Tables, 3 Large Extension Kymographs, in the Physiology department	March 2018 to February 2020	1.20	For conducting experiment on animals.	Remained idle, as the experiment on animals have not been permitted, since March 2014.
2	Gas Analyser	September 2020	0.40	For teaching UG students.	Remained idle due to want of reagents.
3	15 items of equipment such as Actimeter, Computerised Physiographs, <i>etc.</i> , in the Pharmacology department	December 2017 to July 2020	0.37	For PG students.	Remained idle as PG courses were not opened.
4	14 Biochemistry equipment (Ice lined refrigerator, Elisa Reader, Vacuum pumps, <i>etc.</i>)	December 2017	0.21	For PG students.	Remained idle as PG courses were not opened.
5	Autopsy tables, Autopsy Saw with accessories, four Body Mortuary Chambers, <i>etc.</i>	December 2017 to June 2020	0.70	For Autopsy.	Remained idle due to absence of the required permission for use.
6	RETCAM 3 wide Field Digital Imaging System	December 2019	1.41	For ophthalmology Department, to capture colour images of the retina and interior chamber.	Remained idle due to non-readiness of site.
MKCG MCH, Berhampur					
7	25 computers with accessories, in the Pharmacology Department	April 2021	0.26	For computer assisted learning programmes.	Remained idle due to non-readiness of the Lab complex
8	Water purification system in pathology department	March 2021	0.17	For purification of water.	Not installed, due to want of space.
9	Bio Safety Cabinet and Deep freezer in Microbiology Department	April to October 2020	0.07	Received for Covid-19 testing purpose.	Lying uninstalled.
10	One CO ₂ Incubator, one Shaker Incubator and one Real Time PCR in Multi-Disciplinary Research Unit	June 2019 to September 2021	0.30	For research purpose	Remained idle due to non-collection of research samples and non-procurement of consumables.
	Total		5.09		

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

Instances of idle/ defunct equipment:



**Elisa Reader at MCH, Baripada
(20 April 2022)**



**Digital Imaging System at MCH,
Baripada (13 April 2022)**

Thus, the equipment was procured without assessing requirements and also without non-provisioning of ancillary infrastructure, reagents, *etc.*, by the MCHs/ procurement agency. Resultantly, such equipment had not been put to use, for years together. This impacted not only the learning and research activities of the medical students, but also rendered the expenditure unfruitful.

The H&FW Department stated (February 2023) that concerned authorities were being instructed to utilise the procured equipment for patient care, without idling the same.

4.2.6.2 Non-use of Cath lab in the Cardiology Department

The Indoor hospital building of MKCG MCH, was declared unsafe in August 2012. The H&FW Department instructed (October 2012) the Principal and Dean of the college, to shift the Cardiology department, functioning in the said building, to some other place. The College authorities did not take early action and the Cardiology department continued to function in the unsafe building, up to March 2022. The Superintendent, MKCG MCH had, however, entrusted M/s Siemens Healthcare Private Limited, Rourkela, to dismantle and re-install the Cath Lab of the Cardiology department, in December 2021, after nine years of the building having been declared unsafe. During JPI (8 July 2022), the Cath Lab and the accessories, worth ₹3.13 crore,



**Lithotripsy machine, lying unused in Urology,
Department at MKCG, MCH (29 July 2022)**

was found to have not been shifted, and were lying idle.

Further, one Lithotripsy machine (₹3.22 crore), for treatment of kidney stones, installed (November 2014) in the Urology Department, in the Indoor Hospital Building, was also lying idle and had not been used since March 2020, even

though the Urology Department had been shifted (March 2022) to the new PMSSY building.

4.2.7 Delay in installation and operationalisation of equipment

The Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) aims at correcting regional imbalances in the availability of affordable and reliable tertiary services and augmenting facilities for quality medical education. The PMSSY, Phase III, was implemented at a cost of ₹ 150 crore¹⁰¹, in MKCG MCH, to improve tertiary care and quality medical education, by establishing super specialty Blocks. As per stipulation, the civil construction work, procurement and installation of equipment, *etc.*, was to be completed and the super specialty blocks were to be made functional, by September 2018.

Audit noticed that, despite completion of the building in July 2020 and procurement of equipment, the super specialty block had not been made fully functional, as of July 2022. Out of 233 items of equipment required, 210 had been procured during February 2018 to February 2022. The remaining 23 equipment had not been received from the vendor.

It was noticed that, out of the 210 items of equipment received, 52 items of equipment, valuing ₹8.23 crore, had not been installed and 70 installed items of equipment (₹7.44 crore) were not being used (July 2022) and were lying in different departments. Besides, 65 items of furniture¹⁰², valuing ₹99.18 lakh, received during October 2020, had not been put to use, due to non-functioning of the 54-bedded ICU. Non-utilisation of the installed equipment, even after one to four years of procurement, impacted the quality of patient care services in the hospital.

Thus, the super specialty departments, established under PMSSY, were yet to function optimally, for improving the tertiary healthcare and quality medical education.

The H&FW Department stated (February 2023) that 166 equipment had been installed and other equipment would be installed shortly. The fact, however, remained that even the installed equipment had not been put to use.

4.2.8 Non-condemnation of defunct EIF

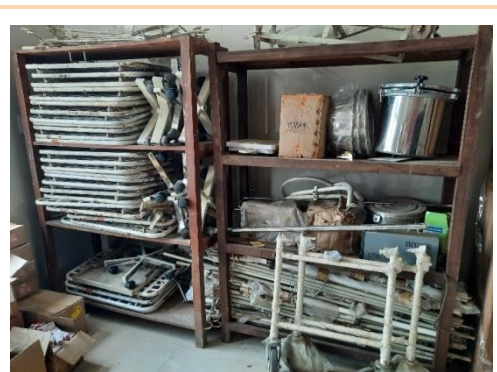
As provided under the Odisha General Financial Rules (OGFR), the competent authority should see that measures are taken to survey, segregate and consider the disposal of unserviceable, surplus and obsolete stores, in accordance with the prescribed procedure of the Government.

¹⁰¹ GoI share: ₹120 crore and State share: ₹30 crore

¹⁰² Fully motorized beds (30) valuing ₹52.50 lakh; Semi-motorised beds, valuing (25) ₹36.33 lakh; and Emergency Trolley, valuing (10) ₹10.35 lakh

Audit noticed that 5,771 items of equipment costing ₹33.23 crore, had been proposed for condemnation, by M/s Kirloskar Technologies Private Limited (KTPL), during January 2020 to September 2021. These items of equipment were lying in different health institutions across the State. However, no steps had been taken on the condemnation proposal, as of March 2022.

Non-disposal of the condemned/unserviceable EIF, not only led to unnecessary occupation of space, but also created an unhealthy environment in the hospitals.



Obsolete items stored in sub-store at DHH, Dhenkanal (29 April 2022)

The H&FW department stated (February 2023) that concerned authorities had been instructed to take appropriate steps for early condemnation of defunct/obsolete equipment.

4.2.9 Procurement issues

4.2.9.1 Committee for finalising indents of EIF, not formed in PRM MCH

As per rational procurement planning and management of EIF, Heads of the respective departments are to prepare indents/ requisitions for the required items, in the prescribed format and place them before the Medical College Equipment Management Committee (MCEMC)¹⁰³. The MCEMC is to finalise the indent list of Departments, on priority basis, and prepare a consolidated list, which is to be forwarded to the State Drug Management Unit, for being placed it before the State Level Equipment Management Committee (SEMC), for further action.

Audit noticed that PRM MCH, had not constituted a MCEMC, to validate the indent lists of departments. The heads of the concerned departments were placing their indents directly to the Director of Medical Education and Training, without any validation. As a result, the priority/ necessity of the equipment, could not be assessed, due to which some equipment had been procured, without immediate requirements and kept idle, as discussed in **Paragraph 4.2.6.1**. On the other hand, instances of shortage of essential equipment, in both-clinical and non-clinical departments, were noticed, as discussed in **Paragraph 4.2.5**.

The H&FW Department stated (February 2023) that the PRM MCH was being instructed to form EIF committee.

4.2.9.2 Due procedure not followed in procurement of EIF at MKCG MCH

As per the decision (August 2017) of the SEMC, EIFs valuing up to ₹5 lakh, are to be procured at the institutional level. Indents, for items covered under existing Rate Contract of OSMCL, are to be routed through OSMCL.

Further, all Government offices are required to make maximum procurement through the Government e Marketplace (GeM) portal, to achieve the best value

¹⁰³ The Dean and Principal of the Medical College heads the committee

for money spent on Government procurement. In case the procurement is inevitable through open bidding, a certificate is to be furnished by the officer responsible for the procurement, to the effect that the item procured is either not available on GeM, or the price discovered in open bidding is less than the price available at the GeM portal.

On scrutiny of records and information made available, Audit observed the following:

- **Procurement without approval of SEMC/SLPC:** The Dean and Principal, MKCG MCH, Berhampur, procured 38 kinds of equipment (426 numbers), costing ₹8.41 crore, each above ₹5 lakh, during July 2016 to November 2021, without submitting indents to the SEMC, for scrutiny and procurement by the State Level Procurement Agency, *i.e.* OSMCL. Due to procurement at its own level, need assessment, like choice of technology, availability of man-power, infrastructure, *etc.*, could not be examined by the SEMC. Resultantly, some of the procured equipment could not be installed/ made functional, due to want of infrastructure, manpower, *etc.*, as discussed in **Paragraph 4.2.6.1**.
- **Procurement of EIF at higher rate:** Audit test-checked 12 items of EIF (36 numbers), procured by the College Authority, during March 2018 to August 2021 and found that, in 12 cases, the procured rates were more than the contract price of OSMCL, leading to extra expenditure of ₹9.92 lakh, as detailed in **Appendix 4.3**.
- **Procurement beyond GeM portal:** The Dean and Principal, MKCG MCH, procured 277 types of items, costing ₹8.41 crore, during May 2019 to March 2022, through open tender and Local Purchase Committee, without exploring the availability of lower rates in the GeM portal, despite instructions of the Government. In these cases, the officer responsible for the procurement had not furnished necessary certificates to the effect that the items procured either were not available on GeM or the price discovered in open bidding was less than the price available at the GeM portal, though this was required under Government instructions. The action of the college authorities was, therefore, contrary to the Government instructions.

Thus, procurement of EIF, by the test-checked MCHs, as discussed above, was not in conformity with the policy and instructions of the Government.

The H&FW Department stated (February 2023) that steps were being taken to inquire into the matter and to take appropriate corrective steps.

4.2.10 Procurement and supply of equipment for Covid-19 management

The OSMCL was the designated agency for procuring and supplying different kinds of equipment, like ventilators, oxygen concentrators, oxygen cylinders, *etc.*, to the health care facilities, including dedicated Covid-19 hospitals. Details of the equipment procured and supplied by the OSMCL, are given in **Table 4.21**.

Table 4.21: Equipment received and supplied by OSMCL, for Covid-19

Name of the equipment	Quantity procured/ received				Quantity supplied
	Procured by OSMCL	Through PM Cares/ GoI	Through other agencies	Total	
ICU ventilators	423	707	230	1,360	1,235
Oxygen Concentrators	7,516	936	2,903	11,355	9,238
Oxygen Cylinders	29,282	35,741	11,001	76,024	37,898
Total	37,221	37,384	14,134	88,739	48,371

(Source: Data provided by the OSMCL)

Audit observed that:

- OSMCL had supplied 402 ICU ventilators (cost¹⁰⁴: ₹11.77 crore), to 13 private hospitals, for treatment of Covid-19 patients. After the Covid-19 pandemic, these ventilators were to be returned to Government¹⁰⁵. It was, however, noticed that these ventilators had not been returned by the private hospitals. During JPI of 10 such hospitals, these ventilators were found to be lying in the stores of these private hospitals.
- OSMCL had also supplied 930 oxygen cylinders (cost¹⁰⁶: ₹88.99 lakh) to seven private hospitals. The return of these cylinders, to Government, was not found available on records. However, during JPI of these private hospitals (May-July 2022), the hospitals stated that they had returned the cylinders to OSMCL.
- OSMCL had supplied 817 Multi-Para monitors¹⁰⁷, (cost: ₹10.95 crore)¹⁰⁸ to 12 private hospitals, which were lying with them.
- The test-checked DHHs had received 84 ICU ventilators, 2,081 Oxygen concentrators and 122 multi-para monitors, for Covid-19 management. During JPI, these equipments were found lying idle, due to want of infrastructure like ICU facilities, manpower, etc. Consequently, intended medical care could not be provided to the patients.
- As per data provided by the OSMCL, 84 ICU ventilators had been supplied to seven of the test-checked DHHs. However, the DHHs reported receipt of only 64 ventilators. Thus, there was a discrepancy of 20 ventilators.

The main reason for the idling of these items of equipment was the lack of coordination between the Government entities and offices, that were involved in the Government's response to the Covid-19 outbreak. Moreover, the ventilators in the DHHs were also lying idle, due to non-provisioning of the required infrastructure and manpower, as noticed during the JPI conducted by Audit with the hospital staff.

The H&FW Department stated (February 2023) that the equipments were retained in the empaneled private Covid-19 hospitals for any eventuality in future. The fact, however, remained that the equipment supplied to the private

¹⁰⁴ Calculated at ₹2,92,905 per unit, being the unit price for ventilators supplied by GoI

¹⁰⁵ As per draft agreement sent by the H&FW Department to the Collector, Sambalpur

¹⁰⁶ Computed at ₹9,569 per unit, being the unit price for cylinders supplied by GoI

¹⁰⁷ Multipara monitors measure and display the relevant vital parameters of patients such as saturation of peripheral oxygen / non-Invasive blood pressure/temperature

¹⁰⁸ ₹1.34 lakh per unit x 817 nos.

hospitals should be properly stored to avoid any damage/ deterioration in the conditions of these equipment.

4.2.11 Working of Oxygen Plants

Oxygen is an essential element of basic emergency care. It is required for surgery, as well as treatment of several respiratory diseases, both chronic and acute. Availability of medical oxygen was a challenge in hospitals across the country, during the Covid-19 pandemic.

As per the data provided by the H&FW Department, the State had established 82 Oxygen Plants¹⁰⁹ (including those established through the PM CARES fund), for ensuring uninterrupted oxygen supply in hospitals. The Department has also provided ₹58.93 crore to the Works (R&B) Department, for civil construction, procurement of Diesel Generators and transformers, including electricity connection and Medical Gas Pipeline System works. The aim of establishing the plants was to further strengthen the public health system and ensure that each of these hospitals had a captive oxygen generation facility, with the idea that such an in-house captive oxygen generation facility would address the day-to-day medical oxygen needs of these hospitals and the concerned districts.

Out of the 82 Oxygen plants established in the State, 81 had been commissioned during June 2021 to January 2022 and had been reported as being functional, in different hospitals, by the Department. Audit noted that Oxygen generation plants had been established in all the test-checked DHHs. The status of Oxygen plants, in the test-checked districts, is given in **Table 4.22**.

Table 4.22: Details of Oxygen Generation Plants in test-checked DHHs

Name of DHHs	Oxygen Plants	PM CARES	State fund	Date of Installation
Bhadrak	2	1	1	November 2021
Dhenkanal	1	1	-	October 2021
Kandhamal	2	1	1	June 2021/ Jan 2022
Nabarangpur	1	1	-	July 2021
Nuapada	1	1	-	July 2021
Puri	2	1	1	August 2021
Sundargarh	1	1	-	Not Available

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

In this regard, Audit observed that:

- The Oxygen plants at three DHHs (Nuapada, Puri, Sundargarh) were functional.
- The Oxygen plants at the DHHs of Dhenkanal and Kandhamal, were not functional, due to want of technicians.
- The Oxygen plant at DHH, Nabarangpur, was not operational, due to incomplete pipe laying work, whereas the plant at DHH, Bhadrak, was not functioning, medical gas pipeline system was only available in the TCC, for which less amount of oxygen was required. The other plant

¹⁰⁹ PM CARES: 39; State CSR: 30; Ministry of Petroleum and Natural Gas: 09; Ministry of Railways: 04

was idle, due to non-handing over of the newly constructed MCH building to the DHH authorities.

Thus, uninterrupted Oxygen supply to the patients had not been ensured in all the hospitals, despite installation/ establishment of Oxygen generation plants and provision of funds for ancillary works, even though these plants had been reported as being 'functional' by the Department.

The H&FW Department stated (February 2023) that infrastructure strengthening work, such as extension of medical gas pipeline, was under process and the district authorities had been instructed to appoint technicians for the same.

4.2.12 Maintenance of equipment

OSMCL entered into an agreement with M/s KTPL, on 29 December 2020, to carry out bio-medical maintenance activities, in all healthcare facilities of the State, from 1 January 2020 onwards, for a period of five years, subject to annual performance review.

On scrutiny of records and information provided by the test-checked MCHs, Audit noticed the following:

- **Resolving complaints:** As per the agreement, three Nodal Officers were to be identified in each hospital. The service provider M/s KTPL would report breakdowns/complaints received from the users and communicate the rectification/resolution status of the complaints, to the nodal officers. However, Nodal Officers had not been identified in PRM MCH, while, in MKCG MCH, a Hospital Manager had been designated as the Nodal Officer.

It was noticed that 29 complaints, lodged at MKCG MCH, for assets worth ₹ 84.56 lakh, during the period from February 2020 to March 2022, had not been resolved, as of July 2022. The status of these complaints was shown as '*work in progress or work assigned*'. Delay in resolving the complaints, led to non-functioning of the equipment, impacting patient care and medical education in the MCHs.

- **Training not imparted:** As per the terms and conditions of the agreement, the service provider (M/s KTPL) was to impart periodic user trainings, at least twice a year or as and when requested by the Nodal Officer. However, the service provider had not provided any training to the users, at both the test-checked MCHs.
- **Preventive maintenance:** The service provider did not undertake preventive maintenance, testing and calibration of all bio-medical equipment, installed in PRM MCH. Instances of non-maintenance of equipment were noticed. For example, a complaint in regard to the Parafin Embedding Bath with Cold Plate (KTPL Barcode No. 135380 and 135376), costing ₹10.76 lakh had not been resolved, as of April 2022, even though the machinery had been out of order since October 2021.
- **Defunct equipment, costing ₹2.06 crore, in MKCG MCH:** As on 16 July 2022, 65 items of equipment, costing ₹2.06 crore (*Appendix 4.4*),

were in a non-working condition, in MKCG MCH. Out of these, 50 items of equipment were under warranty, while the warranty period of 15 had expired, as of March 2022. Details of these defunct items of equipment, such as date from which it had been non-working, complaints lodged to KTPL, status of repairs, etc., were not made available to Audit.

Due to non-providing of trainings to users, non-conducting of regular preventive maintenance, delays in resolving breakdown complaints by the service provider (M/s. KTPL), proper implementation of the Biomedical Equipment management & maintenance programme, was not ensured.

The H&FW Department stated (February 2023) that instructions were issued to the concerned nodal officers for taking appropriate measures for maintenance of disordered equipment, by placing the same before the service providing agency without delay.

Recommendation 4.2:

State Government may ensure availability of the full range of essential equipment, at all levels in hospitals. It may also ensure correlation between the availability of infrastructure, manpower and equipment, to avoid idling of medical equipment and medical devices.