Chapter-8

Building Infrastructure

Chapter 8 Building Infrastructure

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

8.1. Availability of hospital beds

8.1.1. District Hospitals

As per IPHS, one District Hospital (DH) should be created in each district to cater to the secondary health care needs of the public at the district level. IPHS also prescribe that the total beds required for a DH should be based on a district's population, bed days per year and bed occupancy rate.

As discussed in the Paragraph 1.3.1, the Department did not prescribe any standard/criteria for creating hospital beds in the DHs. It also did not adopt IPHS norms in this regard to create adequate number of hospital beds in DHs to provide easy access to quality secondary health care services to the public. Audit observed that in Uttar Pradesh, DHs were established in all 75 districts as of March 2018. However, the number of hospital beds functional in the DHs did not conform to the norms in the seven[147] sampled districts as only 2,299 hospital beds (62 *per cent*) were functional[148] against the requirement of 3,692 hospital beds as of March 2018. District-wise position is given in **Table 45**.

Table 45: Availability of functional hospital beds in the hospitals

District	Population (Lakh)	No. of hospital beds required[149]	District-level Hospitals	2013-14	2017-18	Shortfall of hospital beds
				No. of beds	No. of Beds	
Agra	44.19	630	DH, DWH	328	328	48%
Allahabad	59.54	848	DH, DH-II, DWH	493	493	42%
Balrampur	21.49	306	DH, JH, DWH	154	154	50%
Banda	17.99	256	DH, DWH	135	135	47%
Budaun	36.82	525	DH, DWH	313	313	40%
Gorakhpur	44.41	633	DH, DWH	446	446	30%
Saharanpur	34.66	494	DH, DWH	406	430	13%
Total	**259.1**	**3,692**	**16 hospitals**	**2,275**	**2,299**	**38%**

(Source: Test-checked hospitals)

[147] Lucknow district has 11 district-level hospitals, out of which only three were audited. Thus, requirement of hospital beds could not be evaluated in audit.

[148] Hospitals beds available in the special category hospitals such as TB hospitals, Mental health hospitals, *etc*., have not been taken as these are created for specific diseases and are not district-based.

[149] Taking BOR of 100%, average ALoS as evaluated in Table 23 (2.6 days) and one patient per 50 people, as per IPHS

As can be seen from the above, during 2013-18 there was little or no augmentation in the functional bed capacity in the hospitals in the test-checked seven districts. Pertinently, the number of IPD patients in 14 out of the 19 test-checked district hospitals increased during 2013-18, with substantial jumps in DH Agra (67 *per cent*), DH Banda (56 *per cent*), DWH Allahabad (49 *per cent*) and DH Saharanpur (46 *per cent*).

The Government stated (May 2019) that the availability of hospital beds was significantly higher but this was not supported by the records examined by audit in the concerned hospitals. It further stated that bed capacity would be augmented in the DHs since a large number of projects were either initiated or completed during 2013-18 and 100 bedded Maternity Care Hospitals in five out of 07 test-checked districts were being made functional.

8.1.2. Community Health Centres

As per the norms prescribed by the Department, one CHC (30 beds) for every one lakh population was to be created under the primary level health care services.

Audit observed that against the requirement of 1555 CHCs[150] in the State as per 2011 Population Census, only 821 CHCs were available as of March 2018 leaving a shortfall of 47 *per cent* CHCs, which was much above the national average of 30 *per cent*. The shortage of CHCs would be much higher if current population estimates are taken into account. Pertinently, in 08 CHCs out of the 22 test-checked[151], in-patient load increased by more than 25 *per cent* during 2013-18.

Lack of available functional IPD beds

IPHS prescribe a minimum number of 30 beds for CHCs. However, the number of available functional beds in 2017-18 was below the norm in nine CHCs[152] out of the 22 test-checked. Further, Audit observed that in CHC Kamasin, Banda the treatment of patients was carried out in the open waiting area of the CHC as depicted. Pertinently, CHC Kamasin, Banda was declared as a CHC with only four sanctioned beds.

CHC Kamasin, Banda (25.08.2018)

The Government replied (May 2019) that construction of CHCs is a continuous process and currently 853 CHCs had been operationalised and work of 118 CHCs was in progress. It also stated that in view of shortage of

[150] For rural population of Uttar Pradesh: 15.53 crore (census of 2011)
[151] CHCs Mall, Lucknow and Pachperwa, Balrampur did not furnish patient load records for 2013-14.
[152] Baharia - 11 beds, Handia - 18 beds and Meja - 20 beds, Allahabad; Asafpur - 10 beds, Samrer - 10 beds and Sahaswan - 20 beds, Budaun; Jaitpur Kalan - 23 beds, Agra; and Kamasin - 04 beds, Naraini - 25 beds, Banda.

human resources including doctors, Government has prioritised seamless functioning of constructed and under-construction hospitals only. In respect of less than 30 functional beds in certain CHCs, the Government replied that the matter would be investigated.

The infrastructural deficit of CHCs has a concomitant impact on the availability of primary health facilities at the Block level and access to quality health care.

8.1.3. Hospital space requirements

IPHS for District Hospitals 2012 and Bureau of Indian Standards 2001 prescribe the area requirement for DHs. Audit however, observed that none of the test-checked 19 DHs/JHs conformed fully to the area requirements, as detailed in **Table 46.**

Table 46: Adequacy of space in the operational areas

Operational area	Requirement (Sq. m.) per bed	No shortfall	No. of hospitals with shortfall (*per cent*) of				Hospitals[153] furnishing data
			01- 25%	26-50%	51-75%	76-100%	
Entrance area (main, OPD)	4.2	6	2	2	4	1	15
Ambulatory care clinic areas	9.31	2	2	1	3	2	10
Diagnostic area	5.95	1	1	1	2	9	14
Intermediate care areas (wards)	15.75	-	3	8	3	1	15
Intensive care areas	1.96	3	1	1	5	-	10
Critical care area	4.69	1	-	3	3	5	12
Therapeutic services	8.75	-	-	-	-	6	6
Hospital services	7	1	-	1	2	6	10
Engineering Services	3.92	1	-	1	-	3	5
Admin area	4.48	-	1	2	5	6	14
Circulation Area	40 % of total area	4	1	2	2	-	9

(Source: Test-checked hospitals)

The Government replied that building maps were being prepared adhering to the norms prescribed in IPHS and Bureau of Indian Standards 2001 from March 2015. It, however, did not spell out the action proposed to be taken for enhancing the area requirement in respect of the existing hospitals and CHCs.

8.1.4. Barrier-free access to hospitals

Barrier-free access to the health facility is an important element in ensuring uninterrupted access by both patients and hospital staff.

Out of the 19 hospitals test-checked, ramps were available at the OPD of 12 hospitals[154] only. Similarly, only 11 test-checked hospitals[155] had a ramp

[153] Out of the 19 test-checked hospitals

[154] DHs- Agra, Allahabad (DH and DH-II), Banda and Gorakhpur, DWHs- Agra, Allahabad, Banda, Balrampur and Lucknow, JHs – Balrampur and Lucknow

available at the emergency ward. Further, out of the 22 CHCs test-checked, ramps were available in only 16 CHCs. This was of particular concern for emergency patients requiring immediate care as the lack of timely physical access to the remaining 06 CHCs could lead to adverse outcomes for patients.

The Government stated that gaps in the availability of construction of ramps in the hospitals and CHCs would be addressed.

8.2. Creation of infrastructure

A designated Committee headed by the Principal Secretary, Department of Medical, Health and Family Welfare awards the works of construction and renovation of hospitals buildings to the Government construction agencies. Periodic maintenance and repair of hospitals and CHCs in a district are undertaken by the concerned CMO through the departmental engineering staff. DGMH at the State-level is responsible for overseeing construction and maintenance activities in the State.

Audit observed that despite substantial shortage the pace of augmentation of hospital infrastructure was tardy, as discussed in the succeeding paragraphs:

8.2.1. Physical achievement of works

During 2013-18, 590 works were sanctioned at a cost of ₹ 2,215.79 crore. Besides, 966 works, sanctioned prior to 2013-14, were in progress as of March 2013. Against this, 990 works (64 *per cent*) were completed, leaving 566 works in progress as of March 2018. Year-wise details are given in **Table 47**.

Table 47: Details of works sanctioned during 2013-18

(₹ in crore)

Year	No. of on-going works at the start of the year	Works sanctioned during the year		Total works	Works completed during the year (%)	No. of on-going works at the end of the year
		No. of works	Sanctioned Cost			
2013-14	966	201	320.63	1167	225 (19)	942
2014-15	942	205	404.69	1147	142 (12)	1005
2015-16	1005	71	847.54	1076	212 (20)	864
2016-17	864	107	556.16	971	226 (23)	745
2017-18	745	6	86.77	751	185 (25)	566
Total		**590**	**2,215.79**		**990**	

(Source: O/o DGMH)

The above-mentioned 566 incomplete works included 205 (36 *per cent*) works which were sanctioned and awarded to the Executing Agencies (EAs) prior to 2013. Audit further observed that in the test-checked eight districts, 61 works[156] (Sanctioned cost: ₹ 510.44 crore) were executed[157] during 2013-18. Details of these 61 works[158] have been summarised in **Table 48**.

[155] DHs- Agra, Banda, Allahabad (DH and DH-II), Gorakhpur and Saharanpur, DWHs- Agra, Allahabad and Lucknow, JH Lucknow

[156] 21 works of 30 to 200- bedded Maternal and Child Hospital (MCH) buildings, 04 works of Trauma Centre, 10 works of DH/Specialised hospitals and 26 works of CHCs.

[157] Including those works which were sanctioned prior to 2013-14

[158] 30 works sanctioned during 2013-18 + 31 works in progress as of April 2013

Table 48: Works executed during 2013-18 in the test-checked districts

(₹ in crore)

Year	Works executed during the year				Works completed as of March 2018			
	Sanctioned prior to current year		Sanctioned during the year		Old works (sanctioned prior to 2013-14)		New works	
	Nos.	Cost (in crore)	Nos.	Cost (in crore)	Nos.	Expenditure (in crore)	Nos.	Expenditure (in crore)
2013-14	25	280.93	09	92.67	19	160.27	08	81.33
2014-15	07	113.75	10	41.69	00	00	06	24.87
2015-16	11	130.32	09	41.86	00	00	05	19.68
2016-17	15	152.17	08	53.29	00	00	01	0.19
2017-18	22	205.26	00	00	00	00	00	00

(Source: O/o DGMH and Executing Agencies)

From Table 48, it could be seen that out of 61 works, only 39 works were completed during 2013-18 and the remaining 22 works at a sanctioned cost of ₹ 205.26 crore were still incomplete.

The Government replied that progress of ongoing works was being regularly reviewed to ensure timely completion of the projects. It also added that an online construction monitoring system has been developed to track physical and financial progress of construction works. However, several cases test-checked in audit revealed instances of considerable delay in the completion of works, as elucidated in paragraph 8.2.3.

Records of 16 works involving an expenditure of ₹ 249.58 crore, out of the above mentioned 61 works, were examined in the Performance Audit. The audit findings are discussed in the succeeding paragraphs:

8.2.2. Irregularities in technical sanctions of works

8.2.2.1. Works without Technical Sanction

Financial Rules, GoUP stipulate that Technical Sanction (TS) of the detailed estimates should be obtained from the competent authority[159] before start of the work.

Audit observed that the TS was not accorded in the work of construction of a new OPD block (electrical works) in DH Lucknow, though the work was completed in December 2016 by EA[160] at an expenditure of ₹ 11.31 crore. Besides, the work at TB cum General Hospital, Gorakhpur was in progress and 70 *per cent* of the work had been completed as of March 2018 at an expenditure of ₹ 17.90 crore (Sanctioned cost: ₹ 20.41 crore) but TS had not been obtained.

Execution of work without obtaining TS was against the financial rules and also there was no assurance that architectural drawing and designs of the buildings were sound. Besides, reasonableness of the rates/cost of the works

[159] According to the Government order (February 2013), in case works are awarded to the Government EAs, TS of the detailed estimates is accorded by the officer of a level, not less the Chief Engineer of the concerned EA.
[160] Uttar Pradesh Rajkiya Nirman Nigam

was also not ensured because these were not approved by the competent authority.

The Government replied that the authority had been provided to appropriate officer of construction agency by the Department of Finance for the release of TS and appropriate officer of construction agency was releasing TS as per rule.

The reply is not acceptable, as TS was not accorded in the above works by the competent authority in the EA.

8.2.2.2. Deficiencies in technical sanctions

Work of upgradation of 100-bedded JH Lucknow to a 300-bedded hospital was completed at an expenditure of ₹ 32.21 crore in March 2016. It was, however, observed that the plinth area of the hospital, comprising four floors was only 13,488.58 sq. metre as against the requirement of 24,000 sq. metre[161] according to IPHS. Thus, per bed available plinth area was 44.96 sq. metre against the required plinth area (80 to 85 sq. metre) as per IPHS norms. This aspect was not considered while according the TS.

The Government did not furnish a specific reply in this regard. However, in the Exit Conference it stated that in future, norms and criteria of area requirement as stipulated in IPHS would be adhered to, if required, before approving the estimate.

8.2.3. Delay in execution of works

Audit scrutiny of records of the selected 16 works revealed that two works, which were still incomplete, were abnormally delayed up to 49 months as discussed below:

- Department awarded the work construction of CHC Chargaon, Gorakhpur to the EA in March 2013, but did not execute an MoU with the EA. Audit observed that the Department handed over the required site to the EA for construction of the CHC only in June 2014 and not at the time of award of work. The EA had completed 94 *per cent* of the work by March 2018. Since the Department had not executed an MoU with the EA, the terms and conditions including scheduled date of completion were not agreed upon with the EA. As a result, the delay in construction was not ascertainable despite the fact that 45 months had elapsed from the date of handing over of the site by the Department.

- Construction of a 300-bedded hospital at Banda was awarded to the EA in November 2011 at a cost of ₹ 56.92 crore for completion by February 2014. The EA started the construction work in April 2012 but did not complete the work by the scheduled date of completion. Records revealed that in May 2017, the EA sent a revised cost estimate (₹ 68.63 crore) to the Department for approval in which three new items were added and three existing items were excluded. The approval of the revised estimate was pending at the level of the Department and the work was incomplete although

[161] 80 to 85 sq. metre per bed

₹ 48.64 crore had been spent as of March 2018. The work was delayed by 49 months from the original scheduled date of completion.

The Government did not furnish a specific reply in respect of above works.

8.2.4. Operationalisation of new hospital buildings

The DGMH prescribed that on completion of 50 *per cent* of the civil work, the CMO would send a proposal for deployment of manpower and equipment to the GoUP so that utilisation of the building was not delayed.

Scrutiny of records of the DGMH revealed that up to March 2018, 601 hospital buildings were handed over by the EAs to the Department for operationalisation. The DGMH did not provide details of operationalisation of these hospital buildings despite repeated requests. Test-check of records revealed that 114 Maternal and Child Health wings (MCH wing) were completed in October 2016. Out of these 114 MCH wings, human resources were sanctioned for 90 MCH wings in October 2016 but equipment was not provided to any of these 114 MCH wings as of March 2018. Resultantly, all 114 MCH wings could not be operationalised as of March 2018.

Out of the 16 test-checked works[162] 12 works were completed and transferred to the respective CMOs during 2013-18. Eight out of these 12 completed hospital works[163], however, could not be made functional for want of human resources and equipment even after a lapse of one month to 32 months (as of March 2018) from the date of handover of these buildings by the EAs ***(Appendix-VIII)***.

Thus, on one hand the hospital buildings were not completed and on the other, the completed buildings could not be operationalised.

The Government did not clarify the reasons for not providing human resources and equipment to the completed hospitals. The matter was, however, discussed in the Exit Conference, wherein the Government stated that human resources and equipment in the completed hospital buildings would be provided to ensure their functionality.

8.2.5. Maintenance and repair of hospital buildings

Upkeep of hospital buildings through periodic maintenance is critical to utilise the created infrastructure optimally and to ensure availability of a safe, clean and conducive environment for the public and hospital staff. Guidelines issued by the DGMH (July 2007) stipulate procedures for taking up works of annual and special maintenance of hospital building works including post-monsoon repairs[164]. As per the guidelines, engineering staff of the CMOs are

[162] CHCs: 04; 30-bedded MCH: 03; 50-bedded MCH: 01; 100 -bedded MCH: 02; 200 bedded MCH: 01; Trauma Centre: 01; OPD Block: 01; TB cum General Hospital: 01 and 300-bedded hospital: 02

[163] CHCs: 02; 30-bedded MCH: 03; 50-bedded MCH: 01; 100-bedded MCH: 01 and 300-bedded hospital: 01

[164] Day to day repairs/services (removing of blockage of drains, restoration of water supply, watering of plants and other surrounding *etc*.); Annual repairs (patch repair of plaster, repair of floors, white washing, colour washing, minor repair/replacement of tiles, repair of electric wiring, replacement of switches, preventive maintenance works, post monsoon works *etc*.); and Special repairs (heavy replacement works and major maintenance work).

responsible for day-to-day and annual repairs as per prescribed cycles, and special repairs as per need assessed through detailed survey.

During 2013-18, against the allotment of ₹ 566.74 crore, ₹ 532.03 crore was spent on the maintenance of hospital buildings in the State. In the test-checked eight districts, against the allotment ranging between ₹ 42.21 crore and ₹ 53.87 crore during 2013-18, expenditure incurred by the eight CMOs and CMSs of the 19 hospitals ranged between ₹ 11.09 crore and ₹ 0.45 crore respectively.

Audit observed the following:

- In contravention of the guidelines for maintenance of hospital buildings, the CMOs and CMSs in the test-checked districts neither prepared building maintenance plans based on the norms and cycles prescribed in the guidelines nor maintained records of building-wise annual maintenance. Due to this, execution of annual repairs *vis-à-vis* prescribed cycles was not verifiable.

- In none of the eight test-checked districts, the prescribed ten activities ***(Appendix-IX)*** to assess the need of repair and to keep regular watch over the upkeep of buildings were carried out by the engineering staff of the CMOs. Thus, the expenditure incurred on the maintenance and repair of hospital buildings in these districts was on *ad hoc* basis without any need assessment.

- During joint physical inspection, Audit observed that many of the hospital buildings were poorly maintained, in-campus service roads were damaged, residential quarters of doctors were in a dilapidated condition, *etc*.

Ward in DH Agra (03.10.2018)

Thus, due to non-adherence to the guidelines prescribed for upkeep of hospital buildings and poor monitoring by the CMOs and CMSs, the created building infrastructure was not maintained as envisaged.

The Government replied that strict directions to adhere to the guidelines would be issued to all concerned and reported abrasions would be examined case by case and necessary action taken.

To sum up, *the objective of providing access to health facilities at primary and secondary level of heath care system remained unachieved for want of adequate number of hospital beds/CHCs. Delay in completion of works and failure of the Department to operationalise the completed buildings only served to aggravate the problem of inadequate access to quality health care.*