CHAPTER-4

DELIVERY OF HEALTHCARE SERVICES

Chapter - 4: Delivery of Healthcare Services

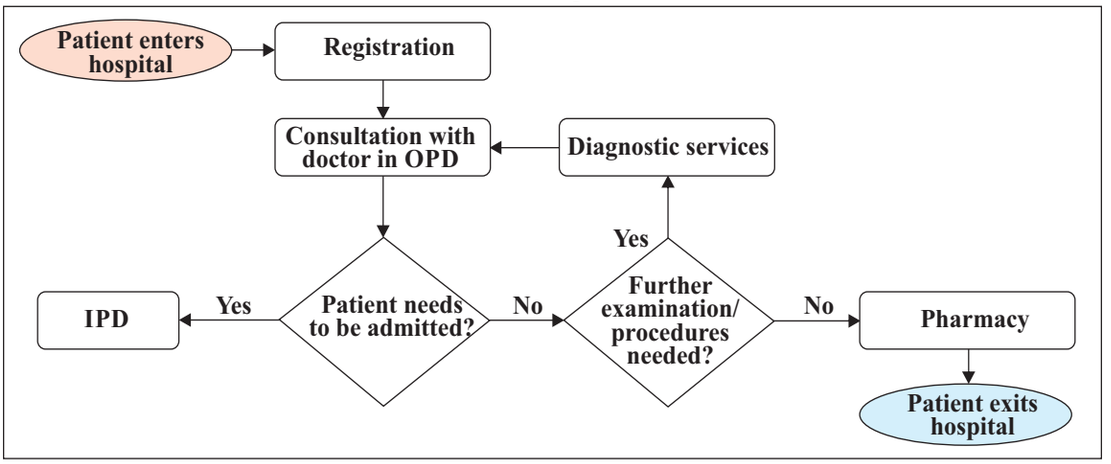
Delivery of OPD, IPD, ICU, OT, Trauma & Emergency and Diagnostic services

High-quality healthcare services involve the right care, at the right time, responding to the users' needs and preferences, while minimising harm and wastage of resources. Quality healthcare increases the likelihood of desired health outcomes. Audit observations on delivery of timely and quality healthcare services in the test-checked DHs through line services like Out-Patient Department (OPD), In-Patient Department (IPD), Intensive Care Unit (ICU), Operation Theatre (OT), Trauma & Emergency and Diagnostic services are discussed in the succeeding paragraphs.

4.1 Out Patient Department (OPD) Services

To avail of services in a hospital, patients first register at the registration counter of the hospital. They are then examined by the OPD doctors, and further diagnostic tests are prescribed, where necessary, for evidence based diagnosis and/ or drugs are prescribed or admission in IPD is advised based on the diagnosis. The detailed process flow is shown in the chart below:

Chart-4.1: Flow of patient services



DHs account for more than 70 *per cent* of OPD patients in Champhai[7] and Aizawl[8] during 2015-19 while share of OPD patients in Lawngtlai DH[9] was more than 50 *per cent* during the years except for the year 2016-17 in which, it was lower at 45.26 *per cent* than the share of private hospital.

Audit findings pertaining to OPD services like registration, consultation, waiting time and other basic OPD facilities/ services in the test-checked DHs are discussed below:

[7] There were two private hospitals in Champhai district as of March 2019
[8] There were 14 private hospitals and three government hospitals in Aizawl district as of March 2019
[9] There was one private hospital in Lawngtlai district as of March 2019

4.1.1 Registration service in test-checked DHs

Registration counter is the first point of contact with the hospital for a patient and is an important component of hospital experience for patients and their attendants. Registration is a process of enrolling patients into the records of the hospital to provide services to the patients and keep track of various services that are availed by each patient. This is also the first step to generate a medical record of the patient in which all medical details of the patient are documented. IPHS norms envisage computerised registration. It is desirable that the registration process is computerised and able to collect patient information such as age, sex, address, ailment and previous patient information in old cases in a quick manner so that unnecessary delay is avoided.

As part of the "Digital India" initiative, GoI launched *e*-Hospital platform on 1st July 2015 during the launch of Digital India Week. The common patient portal (*https://www.ors.gov.in*) of *e*-Hospital platform facilitates hospitals to provide various online services to the patients such as on-line OPD appointment, viewing of laboratory reports, status of availability of blood in blood banks, *etc*. by registered mobile Number or Unique Hospital Identification Number (UHID). Identity of the patients is confirmed digitally using Aadhaar authentication service provided by Unique Identification Authority of India (UIDAI) to ensure that only genuine patients are given online OPD appointments.

Audit noticed that online patient registration in e-hospital mode was not implemented in any of the sampled DHs in the State. However, Aizawl CH had computerised the registration of patient while it was done manually in Champhai and Lawngtlai DHs.

Audit also observed that none of the hospitals (including the DHs having computerised registration) were able to retrieve previous patient information; as such, patients had to register afresh, even for treatment of the same ailments.

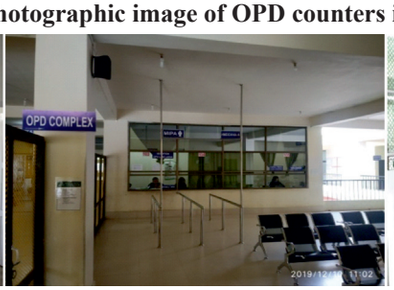
Further, the 'waiting time' at the Reception/ Registration counter of a hospital plays a vital role in developing trust in the quality of service medical treatment or diagnosis and long waiting time in hospital causes dissatisfaction among patients.

Patient satisfaction survey by Audit in the sampled DHs during the course of Audit (November 2019 - March 2020) indicated that it took between 5 to 120 minutes between registration of patients and examination by doctors.

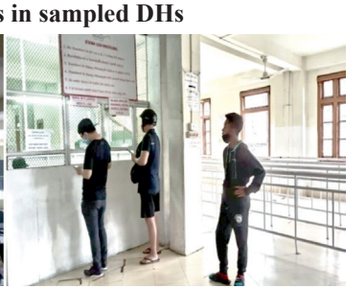
In the absence of online registration system, a more effective follow-up, diagnosis and treatment of patients in future visits, was not possible.

Photographs-4.1: Photographic image of OPD counters in sampled DHs

OPD ticket counter, Lawngtlai DH



OPD ticket counter, Champhai DH



OPD ticket counter, Aizawl CH

4.1.2 Patients load in OPD

IPHS norms prescribe that workload in OPD should be studied and measures should be taken to reduce the waiting time for registration, consultation, diagnostics, pharmacy, *etc*. The norms also prescribe that hospitals should develop standard operating procedures (SOP) for OPD management, train the staff and implement the SOP. Year-wise position of patients handled by the OPD clinics in the sampled DHs is depicted in table-4.1:

Table-4.1: Number of Out Patients in the sampled DHs

Year	No. of Out Patients in Aizawl CH	Average patients per day	Increase (+)/ Decrease (-) in *per cent*	No. of Out Patients in Champhai DH	Average patients per day	Increase (+)/ Decrease (-) in *per cent*	No. of Out Patients in Lawngtlai DH	Average patients per day	Increase (+)/ Decrease (-) in *per cent*
2014-15	3,88,918	1,227	--	24,857	78	--	17,823	56	--
2015-16	4,11,878	1,299	5.90	22,424	71	(-)9.79	19,589	62	9.91
2016-17	4,16,572	1,314	1.14	21,487	68	(-)4.18	16,978	54	(-)13.31
2017-18	3,88,482	1,225	(-)6.74	27,252	86	26.83	23,640	75	39.24
2018-19	3,94,968	1,246	1.67	31,760	100	16.54	25,951	82	9.78

Source: OPD registers

It can be seen from the table above that there was an overall increase in the number of OPD patients in all the selected hospitals in 2018-19 as compared to 2014-15. The overall percentage increase in out-patients in the sampled DHs over the five-year period from 2014-15 to 2018-19 ranged from was two *per cent* in Aizawl CH, 28 *per cent* in Champhai DH and 46 *per cent* in Lawngtlai DH, though in absolute average number, Aizawl CH saw the maximum increase in OPD patients.

4.1.3 Waiting time

As per Assessor's Guide for Quality Assurance, average time taken for registration would be 3-5 minutes. Accordingly, the number of counters required would be worked out on a scale of 12-20 patients/ hour per counter.

In line with the Assessor's guide, optimal number of average patient loads per day in OPD for the sampled district hospitals was derived based on the number of counter available as given in table-4.2:

Table-4.2: Optimum average patient load in OPD per day

Hospital	Patients/ hour/ counter as per NHM Assessors guide	No. of OPD hour in a week[10]	No of counters	Optimum patient load per week	Optimum patient load per day
(1)	(2)	(3)	(4)	(5)=[(2)*(3)*(4)]	(6)=(5)/6 days
Lawngtlai DH	12-20	22	2	528-880	88-147
Champhai DH	12-20	22	2	528-880	88-147
Aizawl CH	12-20	35	4	1680-2800	280-467

[10] OPD hours in Lawngtlai DH and Champhai DH: Weekdays - 9 AM to 1 PM, Saturday - 9 AM to 11 AM In Civil Hospital, Aizawl, OPD hour is between 9 AM to 3 PM in week days and from 9 AM to 2 PM on Saturday

The ideal average number of patient load per day in the three sampled DHs in OPD is worked out, ranging from 88 to 147 patients in Lawngtlai DH and Champhai DH and 280 to 467 patients in Aizawl CH respectively. In comparison to the average daily patient load handled in the sampled DH (Table-4.1) with the ideal average number of OPD per day, the average patient load per day in Lawngtlai DH and Champhai DH were within/ below the optimum average patient load during the period covered under audit.

Civil Hospital, Aizawl on the other hand, had an average no. of patient ranging from 1,225 to 1,314 patients per day during 2014-19 which was much higher than the optimal average patients per day. This indicates that the number of registration counters needed to be increased in CH Aizawl.

Further, the 'wait time' for registration at the Registration counters and wait time between registration and consultation as per the response of 56 patients during Patient Satisfaction Survey conducted in the test-checked DHs as given in tables-4.3 A & B:

Table-4.3: Waiting time for registration and between registration and consultation with the doctor in the test-checked DHs

A. Wait time for registration

Name of DH	Available No. of registration counters	No. of Patients surveyed	Wait time in minutes		
			1-5	6-30	31-60
Aizawl CH	4	48	23 (48 %)	25 (52 %)	-
Champhai DH	2	5	5 (100 %)	-	-
Lawngtlai DH	2	3	3 (100 %)	-	-
Total		**56**	**31**	**25**	**-**

B. Wait time between registration and consultation with the doctor

Name of DH	No. of Patients surveyed	Wait time ranged (in minutes)			
		1-15	16-30	31-60	60 above
Aizawl CH	48	5 (10 %)	11 (23 %)	15 (32 %)	17 (35 %)
Champhai DH	5	2 (40 %)	3 (60 %)	-	-
Lawngtlai DH	3	1 (33 %)	2 (67 %)	-	-
Total	**56**	**8**	**16**	**15**	**17**

Source: Patient's Satisfaction Survey report of test-checked DH

As can be seen from the Table above:

- In Aizawl CH, out of 48 patients surveyed, 52 *per cent* waited for more than five minutes to get registered at the counters while 67 *per cent* of them waited for more than 30 minutes to consult the doctors;
- In Champhai DH, out of five patients surveyed, all of them could register within five minutes. The wait time between registration and consultation with the doctor in respect of all the patients was within 30 minutes;
- In Lawngtlai DH, out of three patients surveyed, all of them could get registered within five minutes. The wait time between registration and consultation with the doctor in respect of all the patients was within 30 minutes.

Thus, there is scope for further improvement of the waiting time for consultation by adding more registration counters, registration staff and doctors in Aizawl CH.

4.1.4 Other basic facilities in OPD

As per the IPHS norms, OPD facility in a DH should be planned keeping in mind the maximum peak hour patient load and should have scope for future expansion. OPD should have approach from main road with signage visible from a distance. Reception and Enquiry/ May I Help desk should be available and should be manned with competent staff fluent in local language. Services available at the hospital should be displayed at the enquiry. Name and contact details of responsible persons like Medical Superintendent, Hospital Manager, Casualty Medical Officer, Public Information Officer, *etc*. should be displayed. Waiting Spaces/ Waiting area with adequate seating arrangement should be provided. Basic amenities like potable drinking water, functional and clean toilets with running water and flush, Fans/ Coolers, seating arrangement as per load of patient should be available. The clinics should include general, medical, surgical, ophthalmic, ENT[11], dental, obstetrics and gynaecology, post-partum unit, paediatrics, dermatology and venereology, psychiatry, neonatology, orthopaedic and social service department.

It was seen in Audit that:

- The OPD counters in the three sampled DHs were located within the Hospital building and the clinics had proper and adequate waiting area and sitting arrangement for the patients and their attendants coming to the hospital for treatment;
- OPDs had approach from main road with signage visible from a distance;
- Reception and Enquiry/ May I Help desk were available with staff fluent in local language. Services available at the hospital were displayed;
- Name and contact number of responsible persons like Medical superintendent, Causality Medical Officer, Public Information Officer, *etc.* were found to be displayed;
- Basic amenities like potable drinking water, functional and clean toilets with running water and flush were available; and
- OPD clinics like psychiatry, orthopaedic, dermatology and geriatric services were not available in Champhai and Lawngtlai DHs. ENT clinic was also not available in Lawngtlai DH.

Photographs-4.2: OPD waiting areas in sampled DHs

OPD waiting area in Lawngtlai DH

OPD waiting area in Champhai DH

OPD waiting area in Aizawl CH

[11] ENT - Ear Nose Throat

Audit observed that while Aizawl CH was better manned and equipped with the requirements of the OPD services, the OPD of Champhai and Lawngtlai DHs were not fully manned especially in the essential services of Orthopaedics, keeping in view the hilly terrain of the State and the higher probability of orthopaedic cases.

The Department stated (October 2020) that all district hospitals in Mizoram did not follow online registration system due to shortage of manpower and financial constraints which was compounded by poor internet connectivity. They accepted that district hospitals except for Aizawl and Lunglei did not have all the essential services including specialty services like Dermatology, ENT, Ophthalmology, Obs & Gynae, Psychiatry, Orthopaedic, *etc*. due to shortage of specialist doctors in the Department.

Conclusion

None of the three test checked DHs namely Aizawl, Champhai and Lawngtlai had online registration system. All surveyed patients could register at OPD counters in Champhai and Lawngtlai DHs within five minutes while 52 *per cent* of the patients surveyed in Aizawl CH took more than five minutes.

Essential Specialist OPD services such as Orthopaedic and ENT were not available in Lawngtlai DH, while Orthopaedic was not available in Champhai DH. Further, desirable OPD services such as Psychiatry, Geriatric and Dermatology were not available in both Champhai and Lawngtlai DHs.

Recommendations

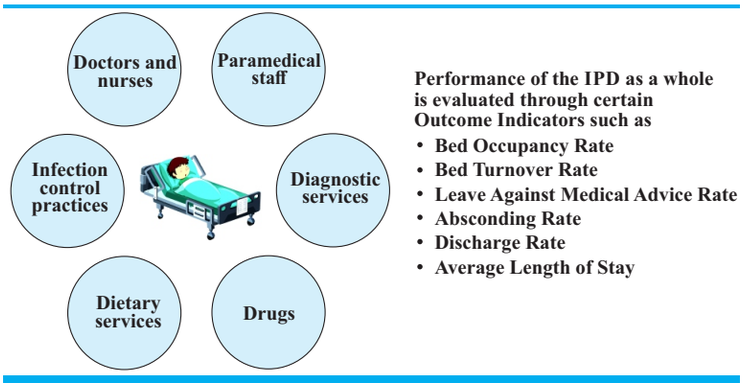
i. The State Government should take steps for implementation of online Registration process and ensure documentation/ computerisation of clinical history of patients for easy retrieval of patient information.

ii. The State Government may ensure availability of basic facilities/ services in the OPD of each district hospitals as per IPHS norms.

4.2 In Patient Department (IPD) Services

IPD refers to the areas of the hospital where patients are accommodated after being admitted, based on doctor's/ specialist's assessment, from the OPD, Emergency Services and Ambulatory Care. In-patients require a higher level of care through nursing services, availability of drugs/ diagnostic facilities, observation by doctors, *etc*.

Chart-4.2: IPD services in the hospital



The number of inpatients that were provided medical care and services in the three test-checked DHs during the period 2014-19 are shown in table-4.4:

Table-4.4: Number of In-patients in three sampled DHs

Year	Census of Inpatients					
	Aizawl CH	Increase (+)/ Decrease (-)	Champhai DH	Increase (+)/ Decrease (-)	Lawngtlai DH	Increase (+)/ Decrease (-)
2014-15	15,874	---	4,349	---	1,771	---
2015-16	15,239	(-) 4.02	4,094	(-) 5.86	2,029	14.57
2016-17	15,343	0.70	3,663	(-) 10.52	1,767	(-) 12.91
2017-18	14,523	(-) 5.34	3,841	4.86	1,456	(-) 17.60
2018-19	13,880	(-) 4.42	4,272	11.22	2,029	39.35

Source: Hospital's records

During the period 2014-15 to 2018-19, there was an overall increase of approximately 15 *per cent* in the number of inpatients in Lawngtlai DH. However, Champhai DH and Aizawl CH witnessed a decrease in number of inpatients of about 1.80 *per cent* and 12.56 *per cent* respectively during the period 2014-15 to 2018-19.

4.2.1 Availability of services in the IPD of the test checked DHs

As per NHM Assessor's Guidebook, a DH should be provided with specialist in-patient (IPD) services related to General Medicine, General Surgery, Ophthalmology, Orthopaedics, *etc.* The availability of inpatient services in the three sampled DHs is given in table-4.5:

Table-4.5: Availability of inpatient services

Sl. No.	Services	Essential/ Desirable (200-300 bed)	Aizawl CH (200-300 bed)	Essential/ Desirable (31-100 bed)	Champhai DH[12] (51-100 bed)	Lawngtlai DH (31-50 bed)
1.	General Medicine	Essential	Yes	Essential	Yes	Yes
2.	General Surgery	Essential	Yes	Essential	Yes	Yes
3.	Obstetrics and Gynaecology	Essential	Yes	Essential	Yes	Yes
4.	Paediatrics	Essential	Yes	Essential	Yes	Yes
5.	Accident and Emergency	Essential	Yes	Essential	Yes	Yes
6.	Ophthalmology (Eye)	Essential	Yes	Essential	Yes	No
7.	Otolaryngology (ENT)	Essential	Yes	Essential	Yes	No
8.	Orthopaedics	Essential	Yes	Essential	No	No
9.	ICU	Essential	Yes	Desirable	No	No
10.	Psychiatry	Essential	No	Desirable	No	No
11.	Geriatric services (10 bedded)	Essential	No	Desirable	No	No
12.	Dermatology and Venereology (Skin and Venereal Disease)	Desirable	No	Desirable	No	No
13.	Dialysis	Desirable	Yes	--	--	--

Source: Records of test-checked DHs

As seen from the table above, it was noticed that in Aizawl CH, out of 11 assured minimum inpatient services, nine inpatient services were available as on date of audit (February

[12] High Dependency Unit and Dialysis Unit were inaugurated on 23rd November 2019 in Champhai DH

2020). Out of eight essential/ assured minimum inpatient services, five and seven essential services were available in Lawngtlai DH and Champhai DH respectively as on date of audit (November 2019 – January 2020).

Further, Sick Newborn Care Unit (SNCU)/ Neonatal Intensive Care Unit (NICU) was available in all sampled DHs. Isolation ward was also available in Lawngtlai DH and Champhai DH. However, essential services like Orthopaedic, Otolaryngology (ENT) and Ophthalmology (Eye) service were not available in Lawngtlai DH, while Orthopaedic services were not available in Champhai DH. Also, Geriatric service which is an essential service for a DH with 200-300 beds was not available in Aizawl CH.

The Department stated (October 2020) essential specialist services in Orthopaedic, ENT and Ophthalmology could not be provided in all the district hospitals due to shortage of specialist doctors in the state. Further, it was stated that geriatric services would be provided in Aizawl Civil Hospital in the near future.

4.2.2 Availability of beds

The number of available bed in the sampled DHs are given in table-4.6:

Table-4.6: Numbers of functional beds available in three DHs

Year	No. of beds		
	Aizawl CH	Champhai DH	Lawngtlai DH
2014-15	300	60	37
2015-16	300	60	37
2016-17	267	60	37
2017-18	266	75	34
2018-19	269	75	34

Source: Records of test-checked DHs

As per IPHS norms, the number of beds required for a district having a population of 10 lakh is around 300 beds. The Department had not prescribed any norms/ criteria for the creation of a DH and hospital beds to deliver secondary level of quality assured services.

The number of beds required for the sampled DHs *vis-à-vis* size of the population of the districts are derived on the basis of the norms of IPHS[13] is given in table-4.7:

Table-4.7: Number of beds required for the sampled DHs *vis-à-vis* size of the population

District Hospital	Population (census 2011) (in lakh)	No. of beds available (As on March 2019)	No. of beds required (IPHS)		Surplus (in *per cent*)	
			At 100 *per cent* occupancy	At 80 *per cent* occupancy	At 100 *per cent* occupancy	At 80 *per cent* occupancy
Aizawl CH	4.00	269	110	88	145	206
Champhai DH	1.26	75	34	28	121	168
Lawngtlai DH	1.18	34	32	26	6	31

Source: Records of test-checked DHs

As seen from above, the number of available beds is above the IPHS norms in all three DHs.

[13] Annual rate of admission as one per 50 population and average length of stay in a hospital as five days

4.2.3 Availability of medical staff in IPDs

As per Checklist 11 of National Quality Assurance Standard (NQAS), nursing services should be available in the hospital 24 x7, medical officers must be available at all times in the hospital and specialist doctors should be available on-call.

It was noticed in audit that Nursing staff were available at all times in the three sampled DHs for the period cover under audit.

In Aizawl CH, separate designated staff (eight Medical Officers and four Nursing Staff) were available 24 x 7 for emergency and casualty department (February 2020). For other departments, on-call duty roster for medical officers were prepared on a monthly basis.

Lawngtlai and Champhai DHs followed 24 x7 on-call systems for medical officers for casualty and emergency ward on a weekly basis. There were no separate designated staff for casualty and emergency department in both the DHs. Patients requiring medical attention outside of OPD timing in other wards were attended by medical officer on-call in casualty and emergency ward.

The Department stated (October 2020) that a separate staff for emergency and casualty department could not be designated due to shortage of manpower in all the DHs. During Exit Conference (11 December 2020), it was stated that non-availability of doctors' quarters in the vicinity of the Aizawl Civil Hospital created problem such as late arrival of doctors on call during emergency.

4.3 Intensive Care Unit Services

The IPH Standards envisage that DHs should have an Intensive Care Unit (ICU) to attend to critically ill patients such as major medical and surgical cases, head injuries, severe haemorrhage, *etc.* requiring highly skilled life saving medical aid and nursing care. The IPH Standards further provide that the number of beds in the ICU may be restricted initially to five *per cent* of the total bed capacity of the hospital and gradually expanded to 10 *per cent*. Life saving equipment such as High End Monitor (HEM), Ventilator, Thrombosis Prevention Device (TPD), Oxygen therapy for each bed and common Ultrasound (USG) and Defibrillator which are essential to save critical patient should be available.

It was seen in Audit that Out of the three selected DHs, Lawngtlai DH and Champhai DH did not have ICU facility[14] (February 2020). Aizawl CH, a 269 bedded hospital requiring 13 beds in ICU as per IPHS had (February 2020) only five beds ICU with the average bed occupancy rate of 83.82 *per cent* during the last five years (2014-19). Essential ICU equipments like Ultrasound Machine, Deep Vein Thrombosis prevention devices suction[15], O_2 therapy devices were not available in Aizawl CH. Although, the ICU had physical barrier free access facility like ramp and lift for people with disabilities and for easy, safe and fast transport of bed/ trolley of critically sick patient; yet, the only lift

[14] ICU facility is desirable for DH below 100 beds

[15] The device is used to cuffs around the legs that fill with air and squeeze legs to increases blood flow through the veins of legs and helps prevent blood clots

facility available at the hospital near ICU was not operational since the last eight years.

Out-of-order lift at Aizawl CH

The Department stated (October 2020) that ICU at Aizawl CH was being upgraded for which civil works have been completed and essential equipment supply order was issued on 20 March 2020. Most of the items have already been procured including 19 ICU beds. Oxygen gas pipe under NESIDS[16] was being taken up and expected to be completed during the current financial year 2020-21. Further, five-bedded ICU under Trauma Care Facility Project are being planned for all the district hospitals except Mamit [IPD with ICU being built under Corporate Social Responsibility (CSR)] which are on the verge of completion. This will minimise the problem of long distance travel by critically ill patients.

4.4 Operation Theatre (OT) Services

Operation Theatre (OT) is an essential service within a hospital where surgical operations are carried out in an aseptic environment.

As per IPHS guidelines, OTs required for a hospital depending on the number of beds for various services are as shown in table-4.8:

Table-4.8: Availability of OT services

Name of DH	No. of beds as per norms	General OT	Availability	Emergency OT	Availability	Ophthalmology/ ENT OT	Availability
Aizawl CH	200-300	2	Available	1	Not available	1	Available
Champhai DH	51-100	1	Available	1	Not available	1	Available
Lawngtlai DH	31-50	--	Available	1	Not available	--	--

Source: Records of test-checked DHs

It was noticed in Audit that against the requirement of two General Surgery OTs, one Emergency OT and one Ophthalmology/ ENT OT, Aizawl CH has two General Surgery OTs and one ENT/ Ophthalmology (Eye) OT. Moreover, Aizawl CH has separate OTs for Gynaecology and Obstetrics, Orthopaedic, ENT and Ophthalmology (Eye). Against the requirement of one General Surgery OT and one Emergency, Champhai DH has one General Surgery OT. Separate Eye OT is also available in Champhai DH and against the requirement of one Emergency OT, Lawngtlai DH has one General Surgery OT. Minor OT is also available in Lawngtlai DH.

4.4.1 Documentation of OT procedures

NHM Assessor's Guidebook prescribes that surgical safety checklist, pre-surgery evaluation records and post-operative evaluation records for OTs should be prepared for each case.

[16] North East Special Infrastructure Development Scheme

Surgical Safety checklists are prepared in order to decrease errors and adverse events and increase teamwork and communication in surgery. The purpose of Pre surgery evaluation is to evaluate and, if necessary, implement measures to prepare higher risk patients for surgery. Post-operative evaluation notes record the care given during the immediate post operative period, both in the operating room and post anaesthesia care unit as well during the days following the surgery. The impact on patient outcomes depends on the effectiveness of hospital's implementation processes of these checklists.

The ratio of number of surgeries performed and surgical safety checklist noticed in the test-checked DHs during 2014-19 is detailed in table-4.9:

Table-4.9: Ratio of surgeries with safety checklist of OT procedures

Sl. No.	Parameter	Year	Aizawl CH	Champhai DH	Lawngtlai DH
1.	Ratio of safety checklist record per total surgeries performed at the OT	2014-15	Checklist not prepared	Checklist not prepared	Checklist not prepared
		2015-16			
		2016-17			
		2017-18			
		2018-19	1:1.3		1:41.3
2.	Ratio of pre-surgery patient evaluation records per total surgeries performed at the OT	2014-15	1:1.5	Records not furnished	Checklist not prepared
		2015-16	1:1.4		
		2016-17	1:1.6		
		2017-18	1:1.5		
		2018-19	1:1.5		1:41.3
3.	Ratio of post-operative notes records per total surgeries performed at the OT	2014-15	1:1.5	Records not furnished	Checklist not prepared
		2015-16	1:1.4		
		2016-17	1:1.6		1:10.3
		2017-18	1:1.5		1:3.9
		2018-19	1:1.5		1:5.2

Sources: Records of test-checked DHs

It can be seen from the above table Lawngtlai DH and Aizawl CH had ensured surgical safety checklist only from 2018-19 whereas Champhai DH had not maintained the same during the whole audit period. Pre-surgery patient evaluation records and Post-operative notes were maintained in Lawngtlai DH *w.e.f.* 2018-19 and 2016-17 respectively.

The Department stated (October 2020) that necessary instructions would be issued to all the district hospitals to maintain relevant checklist of OT procedures as prescribed in NHM Assessor's Guidebook. During Exit Conference (11 December 2020) the department assured that the issue would be verified from the district hospitals and intimated to audit.

4.5 Emergency Services

As per IPHS, 24 x 7 operational emergency with dedicated emergency room shall be available with adequate manpower. It should preferably have a distinct entry independent of OPD main entry so that a very minimum time is lost in giving immediate treatment to patients arriving in the hospital in emergent circumstances. All the selected DHs provided 24 x 7 emergency services having a distinct entry independent of OPD main entry.

It was observed that separate trauma care facility was not available in the sampled DHs (November 2019-February 2020) either due to lack of manpower or infrastructure. National Institute of Health and Family Welfare, Ministry of Health and Family Welfare, GoI made recommendations (July 2019) based on the external evaluation (November-December 2017) of Aizawl CH for constitution of a Co-ordination Committee under the Medical Superintendent of the Hospital in order to:

(i) Monitor and ensure proper functioning of trauma care facility; and

(ii) Purchase equipment and process separate recruitment of staff for trauma care facility.

In this regard, co-ordination committees for establishment of Trauma Care Facility were constituted (October 2019) in the sampled DHs. Further, Trauma Care facilities were under construction[17] in Champhai DH and Lawngtlai DH as of March 2019 (Construction commenced in June 2018 and December 2018 respectively). However, construction of Trauma Care Facility was yet to commence in Aizawl CH as of March 2020.

It was noticed in audit that trauma cases involving grievous injuries, patients of serious road traffic accidents, complicacies, *etc*. were referred to either Lunglei DH or Aizawl CH. There were 33 and 25 referral cases of trauma from Lawngtlai DH and Champhai DH respectively during 2014-19.

Audit observed that there was a high health risk in transporting patients needing trauma care from the far-flung districts like Champhai and Lawngtlai to either Aizawl or Lunglei, which have better facilities. Due to the connectivity problems and journey time which is around eight hours from Champhai to Aizawl, patients would be at high risk due to referrals to places which were far from their DHs.

The Department stated (October 2020) that Trauma Care facilities were being taken up in seven districts except Mamit. Construction works were on the verge of completion except in Aizawl Civil Hospital. Procurement of equipment had also been done. Completion of these projects was expected to minimise the necessity of transporting patients needing trauma care from far-flung districts.

The Director, Hospital and Medical Education (DHME) stated (February 2021) that the construction of Trauma Care Centre at Lawngtlai District Hospital has been completed while 65 *per cent* has been completed at Champhai District Hospital. Though work order (₹ 5.70 crore) was issued (September 2018 and April 2019) for construction of Trauma Care Centre at Aizawl Civil Hospital, there were delays in commencement of works due to land disputes and permission not received from the Aizawl Municipal Corporation (February 2021). The Department had not monitored the timely completion of the Centre.

[17] Construction of Trauma Care facilities in Champhai and Lawngtlai DHs were commenced in June 2018 and December 2018 respectively

4.6 Laboratory and Diagnostics Services

IPHS norms envisage that each DH laboratory should be able to perform all tests required to diagnose epidemics or important diseases from the view point of public health. The availability of diagnostic services in the three sampled DHs is given in table-4.10:

Table-4.10: Availability of diagnostic services in the test checked DHs

Sl. No.	Diagnostic Services	Availability in		
		Aizawl CH	Champhai DH	Lawngtlai DH
1.	Clinical Pathology	Yes	Yes	Yes
2.	Pathology	Yes	Yes	Yes
3.	Microbiology	Yes	No	No
4.	Serology	Yes	Yes	Yes
5.	Blood Bank	Yes	Yes	Yes
6.	Biochemistry	Yes	Yes	Yes
7.	Cardiac Investigations	Yes	Yes	Yes
8.	Ophthalmology	Yes	Yes	Yes
9.	ENT	Yes	No	No
10.	Radiology	Yes	Yes	Yes
11.	Endoscopy (laparoscopy)	Yes	No	No
12.	Respiratory (PFT)	Yes	No	No
13.	Others	Thyroid FT	--	Colposcopy, Colonoscopy

Sources: Records of test-checked DHs

Table above shows the diagnostic services *viz*., ENT and Endoscopy (laparoscopy) and Microbiology were not available in Lawngtlai and Champhai DHs. The laboratories in both DHs were run from a single room and did not have separate rooms for biochemistry, microbiology and pathology services. Lawngtlai and Aizawl DHs had Standard Operating Procedure (SOP) for laboratory and diagnostic services. Laboratory registers were maintained where results of diagnostic test were recorded. However, turnaround time for diagnostic test was not maintained in the three DHs.

Further, the status of availability of cancer diagnostic and linkage services in the test checked DHs are given in table-4.11:

Table-4.11: Services and linkages available for cancer treatment in the sampled DHs

Hospital	Services available in DH	Linkage to nearest tertiary centres/ medical colleges for referral services
Aizawl CH	Diagnostic procedures such as Histopathology, Immuno-histochemistry, Cytopathology including FNAC, Blood fluid analysis	1. Mizoram State Cancer Institute, Zemabawk, Aizawl for chemotherapy and Radiotherapy 2. Dr. Bhubaneswar Borooah Cancer Institute (BBCI), Guwahati for treatment and diagnosis 3. Apollo Gleneagles, Hospital, Kolkata for treatment and diagnosis 4. TATA Medical Centre, Kolkata for treatment and diagnosis 5. AMRI Hospital, Kolkata for treatment and diagnosis
Champhai DH	FNAC, Endoscopy and Ultrasonography	Linked with Aizawl CH
Lawngtlai DH	No diagnostic facility available in the Hospital	Linked with Aizawl CH

Source: Records of DHs

It was noticed that none of the test checked DHs maintained data on cancer such as number and type of cancer cases detected/ diagnosed in the DHs, number of cancer patient referred to specialised health care facilities, *etc*.

Further, it was noticed that Lawngtlai DH did not have diagnostic facilities while Champhai DH did not have biopsy facilities for detection of cancer.

Thus, it was seen that the DHs especially Champhai and Lawngtlai were ill-equipped for diagnosis of cancer and thus the cases had to be referred to a facility of a higher centre.

The Department stated (October 2020) that all essential laboratories and diagnostics services could not be run due to shortage of specialists and space constraints.

4.7 Citizens' Charter and Grievance Redressal Systems

IPHS envisages that each DH should display prominently a citizens' charter for the DH indicating the services available and a grievance redressal system should be established. Citizens' Charter always should be in local language.

It was seen in Audit that citizens' charters was found to be displayed, in easy to understand, local language in all the three sampled DHs. Further, complaint/ suggestion boxes were available in all the three DHs. However, Grievance redressal cell was not formed till date of audit (January, 2020) in the Lawngtlai DH. There was no records of remedial measures taken against the complaints/ grievances received in Champhai and Lawngtlai DHs. The Grievance redressal cell/ complaint cell Committee of Aizawl CH met thrice (August 2017, March 2018 and June 2018) to attend to various complaints in the year 2017 and 2018.

During Exit Conference (11 December 2020) the department stated that meeting of the Grievance redressal cell/ Complaint Cell Committee could not be convened regularly due to paucity of time. However, complaints were addressed and discussed during various other sub-committee meetings.

4.8 Patient Safety

NHM Assessor's Guidebook envisages that in each DH, a disaster management committee should be constituted. The Disaster Management Plan (DMP) was to be developed in the hospital for ensuring preparedness of the hospital staff in the event of disaster through training and conduct of periodic mock drills in the hospitals.

It was seen in Audit that except for Aizawl CH, DMP was not prepared by the other two sampled District Hospitals. Further, no records were found as to the conduct of training and mock drills in any of the three hospitals for fire and other disaster situations during the period covered under audit.

Thus, there was lack of preparedness for any disaster event in the three sampled DHs. It posed high safety risk especially to the seriously ill patients in the events of earthquake, in view of the State being in the high earthquake prone zone.

The Department stated (October 2020) that due to non-availability of funds, improvements on preparedness for any disaster event beyond the present status cannot be achieved.

The Department's reply is not tenable in view of the overall savings in their budgetary allocation every year as mentioned in detail in paragraph 2.1.1.

Conclusion

SNCU/ NICU were available in all the test checked DHs. However, two (Psychiatry and Geriatric) out of 11 essential in-patient services was not available in Aizawl Civil Hospital while one (Orthopaedics) out of eight essential in-patient services was not available in Champhai DH. Three (Ophthalmology, ENT and Orthopaedics) out of eight essential in-patient services were not available in Lawngtlai DH.

Trauma Care facilities were not yet operational in all the test checked DHs. Essential diagnostic services such as Microbiology, ENT and Endoscopy were not available in two (Champhai and Lawngtlai DHs) out of three test checked DHs. Turnaround time for diagnostic tests was not maintained in all the test checked DHs. DHs Champhai and Lawngtlai were ill equipped for concerned diagnosis requiring referrals.

DHs were not prepared for disaster management. Grievance Redressal system was not fully operational in DHs.

Recommendations

i. *Government may proactively synergise availability of specialised in-patient services along with the essential drugs, equipments and human resources in district hospitals.*

ii. *The availability of round the clock doctors and nurses in DHs needs to be ensured.*

iii. *The quality of diagnostic services which are crucial for patient care and treatment be made comprehensive as per requirements. The State Government/ hospital administration must ensure availability of all essential diagnostic services and equipment and improve turnaround time for diagnostic tests.*

iv. *All DHs be equipped with diagnostic tests for cancer detection.*

v. *The Hospital administration may also ensure adequate documentation of availability of safety measures for verification.*

vi. *Adequate grievance redressal mechanism may be operationalised so that hospitals improve performance by tailoring interventions effectively to address the issues related to patient satisfaction.*

vii. *The Department may review disaster preparedness in all DHs and take remedial steps in coordination with State disaster management authorities.*