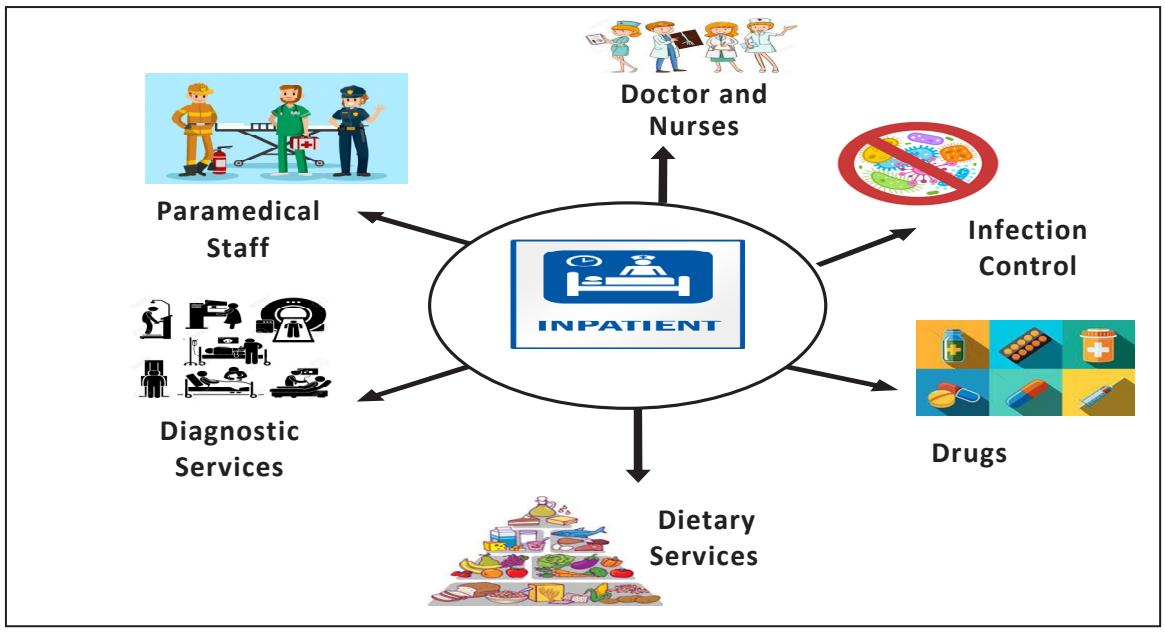
Chapter-4
In-Patient Services

Chapter

4 In-Patient Services

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

Figure-2: IPD Services in a hospital



While availability of doctors, nurses, essential drugs/equipment and dietary services along with performance evaluation is included in this ***Chapter-4***, diagnostic services and drug management are discussed in separate ***Chapter-3 and 7*** respectively. The results of audit scrutiny of indoor environment are discussed in ***Chapter-6 'Infection Control'***. Also, IPD services in DFHs have been commented upon in the ***Chapter-5 'Maternity Services'***.

4.1 Availability of in-patient services

As per IPHS, a DH should provide specialist in-patient services pertaining to General Medicine, General Surgery, Paediatrics, Ophthalmology, Orthopaedics, *etc.* In the test checked DHs/JHs, the required services available are given in the **Table-20** below:

Table-20: In-patient services* in test checked DHs/JHs

Hospital	GM	GS	Pdt	Orth	Opth	ENT	Psy	Act	Phy	Bur	Dia
DH Almora	Yes	Yes#	Yes	Yes	Yes	No	No	No	Yes	No	No
DH Haridwar	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No
JH Chamoli	Yes	Yes	Yes	Yes	Yes$	Yes@	No	No **	Yes	Yes	No
JH Udham Singh Nagar	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes

*__GM__: General medicine, __GS__: General surgery, __Pdt:__ Pediatrics, __Orth:__ Orthopedics, __Opth:__ Ophthalmology, __ENT:__ Ear Nose & Throat, __Psy:__ Psychiatry, __Act:__ Accident and trauma ward, __Phy__: Physiotherapy, __Bur__: Burn ward and __Dia__: Dialysis.
#No General Surgeon was available during the period April 2014 to September 2018.
$Eye specialist was not available from 01.08.2017 to date of audit (March 2020).
@ ENT specialist was not available from 01-01-2019 to date of audit (March 2020).
**Trauma center was not functional since inception.

Source: Information collected from the test checked DHs/JHs.

Audit Observed that:

- All the above DHs/JHs failed to provide Accident & Trauma; and Psychiatry services during 2014-19.
- Dialysis service was not available in any of the test checked DHs/JHs except JH Udham Singh Nagar whereas Burn ward was available only in JH Chamoli and JH Udham Singh Nagar during 2014-19.
- DH Almora could provide General Surgery partially and ENT services were not functional since 20 November 2014 onwards.

The patients, therefore, had no option but to go to other health care facilities for receiving such services.

4.2 Availability of Human Resources

4.2.1 Doctors and nurses

IPHS envisage that doctors and nurses should be available round the clock in IPD to provide due medical care. Audit observed shortage of doctors and staff nurses against the sanctioned strength in test checked DHs/JHs as shown in the **Table-21** below:

Table-21: Details of availability of doctors and nurses as on date of audit

Name of Hospitals	Post	Sanctioned post	Men in position	Excess/ Shortage	Percentage Shortage
DH-Almora	Doctor	20	18	(-) 02	*10*
	Nurses	12	10	(-) 02	*17*
DH Haridwar	Doctor	24	18	(-) 06	*25*
	Nurses	15	11	(-) 04	*27*
JH Chamoli	Doctor	36	22	(-) 14	*39*
	Nurses	28	17	(-) 11	*39*
JH Udham Singh Nagar	Doctor	32	21	(-) 11	*34*
	Nurses	24	16	(-) 08	*33*

Source: Information collected from test checked DHs/JHs.

It was also noticed that the shortage of doctors got compounded owing to deputation of specialist doctors and Medical Officers to other hospitals/temporary attachment for

special services and because of study leave/long leave availed by doctors without any alternative arrangements being put in to run the services.

It was also observed that:

- General surgeon was not deployed during 2014-18 in DH Almora whereas two General surgeons were posted in DH Haridwar during April 2014 to January 2017 against one sanctioned post. Besides, General Physician was not available in DH Almora during 11.09.2015 to 26.06.2017 and in DH Haridwar during 2014-17 whereas two Physicians were deployed in JH Udham Singh Nagar from 01.04.2014 to 12.11.2014 and from 27.08.2016 to 31.01.2017 against one sanctioned post.
- ENT service was not available in DH Almora after 20.11.2014 and in DH Haridwar during 2014-18 due to non-deployment of ENT specialist.
- Emergency Medical Officers were not posted in any of test checked DHs/JHs against sanctioned strength. Resultantly, the hospital authorities were compelled to deploy the specialist doctors to the emergency wing of the hospital.

In the Exit Conference, Government stated that the matter would be looked into. It was further added that shortage of doctors was partially overcome with the recent appointment of 476 doctors and further appointment of doctors was under process.

4.2.2 Rosters for doctors and nurses

A general duty doctor should be available round the clock in IPD of hospital as per IPHS.

The roster for duty of doctors for providing various indoor health care services in IPD was not available in any of the test checked DHs/JHs except DH Almora. The test checked DHs/JHs, however, maintained the roster of duty for nurses. The details of bed to nurse ratio in IPD of test checked DHs/JHs in sampled months are given in the **Table-22** below:

Table-22: Shift[1] wise availability of nurses in IPD of test checked DHs/JHs

Sampled Period	DH Almora			DH Haridwar			JH Chamoli			JH Udham Singh Nagar		
Ratio bed Nurse	Bed/Nurse			Bed/Nurse			Bed/Nurse			Bed/Nurse		
	Shift-1	Shift-2	Shift-3	Shift-1	Shift-2	Shift-3	Shift-1	Shift-2	Shift-3	Shift-1	Shift-2	Shift-3
May 2014	2	10	10	7	21	21	8	9	9	13	20	20
August 2015	3	15	15	7	25	25	7	8	8	8	19	19
November 2016	1	2	2	9	21	21	5	6	6	5	10	10
February 2018	5	24	24	6	16	16	5	6	6	6	10	12
May 2018	4	22	22	6	21	21	6	7	7	8	17	17

Source: Information provided by the test checked DHs/JHs.

The Nursing Council of India recommends the deployment of one nurse per six beds in the general ward of a district hospital. It was observed in Audit that the bed to nurse ratio

[1] Shift-1: from 8 AM to 2 PM, Shift-2: from 2 PM to 8 PM, Shift-3: from 8 PM to 8 AM.

was inordinately higher in Shift-2 and Shift-3 in three of the four hospitals as compared to Shift-1 which was against the norm for providing adequate care to the patients.

4.2.3 Para-medical staff

The paramedical staff is responsible for implementation and management of the prescribed treatment plan and to deal with the patients in emergent medical situations. Audit observed that:

- In JH Chamoli and JH Udham Singh Nagar, only one and three Laboratory Technicians were posted respectively against the sanctioned strength of five. Further, in JH Chamoli, only one X-ray Technician was posted against the sanctioned strength of two.
- There was a shortage of Pharmacists in all test checked DHs/JHs; the shortage ranged between 10 *per cent* and 43 *per cent.*
- The post of OT (Operation Theatre) Technician was not sanctioned in the test checked DHs/JHs except in JH Udham Singh Nagar.
- Similarly, post of ECG (Electrocardiogram) Technician was not sanctioned in DH Almora and JH Chamoli and the ECG test was being carried out by an alternative arrangement.

In the Exit Conference, the Government stated that the Chief Medical Officer and District Magistrate of the respective districts had been delegated with powers to recruit the paramedical staff on contractual basis as per requirement.

4.3 Availability of essential drugs

To ascertain the availability of essential drugs in the IPD, Audit examined availability of 14 types of essential drugs[2] during the sampled months in test checked DHs/JHs. The details of availability of essential drugs are given in the **Table-23** below:

Table-23: Availability of essential drugs in test checked DHs/JHs

Name of the hospital	Number of drugs available out of the 14 test checked drugs				
	May-2014	Aug-2015	Nov-2016	Feb-2018	May-2018
DH Almora	12	11	8	8	11
DH Haridwar	9	8	7	9	9
JH Chamoli	10	9	11	10	10
JH Udham Singh Nagar	7	8	7	6	9

Source: information collected from test checked DHs/JHs.

[2] Activated Charcoal, Adrenaline, Aminophylline, Antiserum Polyvalent Snake Venom, Atropine sulphate, Dextrose, Dextrose with normal saline, Diclofenac Sodium, Digoxin, Metoclopramide, Ringer lactate, Salbutamol, Sodium Chloride and Vitamin K (w).

Audit scrutiny revealed that Activated Charcoal (used to treat oral poisoning, hangovers, upset stomach, *etc*.) and Vitamin-K (except JH Chamoli) were not available in any of the test checked DHs/JHs during the sampled months. Digoxin (used to treat Cardiac arrest and superficial bleeding) was available in only DH Almora in one out of five sampled months. Besides, three to four types of drugs remained out of stock for 18 days to 120 days.

Uses of medicines:

Adrenaline: *Used in emergencies to treat serious allergic reactions to improve breathing, stimulate the heart, raise the dropping blood pressure, etc.*
Aminophylline*: Used to relieve symptoms of reversible airway obstruction due to asthma and other chronic lung diseases.*
Diclofenac Sodium*: Used to relieve pain, inflammation and joint stiffness caused by arthritis.*
Salbutamol*: Used to treat asthma, chronic bronchitis, and to prevent exercise-related asthma.*

Even the essential drugs as shown in box alongside were out of stock in test checked DHs/JHs during five to 50 *per cent* of sampled period which indicated that either the quality of treatment was compromised due to non-availability or the patients were compelled to buy these drugs from outside, leading to additional expenditure by the patient.

4.4 Availability of medical equipment

According to NHM Assessor's Guidebook, district hospitals are required to ensure the availability of required equipment and instruments for examination and monitoring of patients.

Audit scrutiny revealed that out of the sampled 11 essential equipment[3], DH Almora, DH Haridwar and JH Chamoli had six, seven and eight types of equipment respectively. It was further observed that:

Positive feature

JH Udham Singh Nagar had all sampled equipment for examination and monitoring of patients.

- Laryngoscope (used for endoscopy of the larynx, a part of the throat) was not available in DH Almora and DH Haridwar whereas Crash-cart (used for transportation and dispensing of emergency patients on site) was available only in JH Udham Singh Nagar.
- Weighing scale for baby was available only in JH Udham Singh Nagar.
- Glucometer (used for estimation of blood sugar) and Endotracheal Tube (used when a patient is unable to breathe on his own) were not available in DH Almora.

[3] Adult Bag and Mask, BP Apparatus, Crash-cart, dressing trolley, ET Tubes, Glucometer, Laryngoscope, Suction machine, Thermometer, weighing scale for adult and Weighing scale for baby.

4.5 Operation Theatre Services

Operation theatre (OT) is an essential service that is to be provided to the patients. IPHS prescribe OT for elective major surgery; emergency services; and ophthalmology/ENT for district hospitals.

Audit found that OT for emergency surgeries was not available in any of the test checked DHs/JHs. As a result, all the test checked hospitals could not provide the emergency surgery facility to needy patients during the period 2014-19.

As per NHM Assessor's Guidebook, surgery performed per surgeon is an indicator to measure efficiency of the hospitals. Analysis of the records of surgeries done in test checked DHs/JHs in the sampled months revealed substantial variation in the number of major and minor surgeries per surgeon per month as shown in the **Table-24** given below:

Table-24: Average major and minor surgeries per surgeon

DHs	No. of Major Surgeries performed per surgeon			No. of Minor Surgeries performed per surgeon			EYE Surgeries performed per surgeon
	General	Ortho	ENT	General	Ortho	ENT	
DH Almora	-	10.5	0	-	19	12	4.8
DH Haridwar	12.8	5.1	0	12.3	1.4	2	5.7
JH Chamoli	3.2	0.2	0	12	4	1.8	3
JH Udham Singh Nagar	11.7	6	1	14.8	4.3	7	18.6

- General surgeon was not available in DH, Almora during the test checked months, while nominal General surgeries[4] (major and minor) were conducted by the Orthopaedic surgeons during the period.
- Major ENT surgeries were not conducted in DH Almora and DH Haridwar due to non-availability of ENT surgeon in four out of five sampled months and in JH Chamoli despite availability of ENT surgeon during sampled months.
- In JH Chamoli, the average number of General and Orthopaedic major surgery was very low as compared to other three DHs/JHs.
- Average number of Eye surgeries per surgeon was low in all the DHs/JHs except JH, Udham Singh Nagar in the test checked months during the period 2014-19.

In the Exit Conference, the Government assured that OT for emergency surgeries would be established as required under IPHS.

4.5.1 Availability of drugs for OTs

To ascertain the availability of essential drugs for OTs, Audit examined availability of 23 types of drugs[5] as prescribed in NHM Assessors Guidebook during the sampled days in test checked hospitals.

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4 Nine major and 52 minor General surgeries conducted during test checked months.

5 Injection Oxytocin, Injection Ampicillin, Injection Metronidazole, Gentamycin, Injection Diclofenac Sodium, IV fluids, Ringer lactate, Plasma expander, Normal saline, Injection Magsulf, Injection Calcium gluconate, Injection Dexamethasone, Injection Hydrocortisone Succinate, Diazepam, Pheniramine maleate, Injection Carboprost, Fortwin, Injection Phenergen, Betamethasone, Injection Hydralazine, Methyldopa, Nifedipine and Ceftriaxone.

In the test checked DHs/JHs, on the sampled days, details of non-availability of essential drugs are shown in the **Table-25** given below:

Table-25: Non-availability of essential drugs in test checked DHs/JHs

Name of the hospital	Number of drugs not available out of the 23 test checked drugs				
	1-7 May 2014	1-7 Aug 2015	1-7 Nov 2016	1-7 Feb 2018	1-7 May 2018
DH Almora	13	11	15	15	10
DH Haridwar	10	12	17	16	13
JH Chamoli	7	8	6	9	7
JH Udham Singh Nagar	8	8	9	9	8

Source: information collected from test checked DHs/JHs.

Audit examinations revealed that six (26 *per cent*) to 17 (74 *per cent*) essential drugs were not available on the sampled days in the test checked DHs/JHs. Essential drugs such as Plasma Expander (used to treat patients who have suffered haemorrhage or shock), Nifedipine (used to prevent certain types of chest pain like angina) and Methyldopa (used to treat high blood pressure) were not available in any of the test checked hospitals on the sampled days. Further, Calcium Gluconate (used to treat conditions caused by low calcium levels such as bone loss or weak bones), Phenergan (used to treat allergy symptoms such as itching, runny nose, sneezing, watery eyes and itchy skin rashes), Ampicillin (used to treat many different types of infections such as bladder infections, infections of the stomach or intestines) were not available in 20 *per cent* to 66 *per cent* of the days sampled.

4.5.2 Availability of equipment for OTs

As per IPHS, 29 types[6] of essential equipment should be available in OT of a district hospital.

Essential equipment such as Dehumidifier (used for protection from excessive moisture/humidity), Ultra violet lamp (used for disinfecting patient and operating rooms), Ethylene Oxide sterilizer (used to sterilize[7] medical device), Ultrasonic cutting and coagulation device[8] and Ultrasonic cleaner were not available in any of test checked DHs/JHs. Audit further noticed that 41 *per cent* to 69 *per cent* of 29 types of equipment were not available in test checked DHs/JHs. The resources available for OTs in the test

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6 Autoclave HP Horizontal, Autoclave HP Vertical, Operation Table Ordinary Paediatric, Operation Table Hydraulic Major, Operation Table Hydraulic Minor, Operating Table non-hydraulic field type, Operating Table Orthopedic, Autoclave with Burners 2 bin, Autoclave vertical single bin, Shadowless lamp ceiling type major, Shadowless lamp ceiling type minor, Shadowless lamp stand model, Focus lamp Ordinary, Sterilizer (Big instruments), Sterilizer (Medium instruments), Sterilizer (Small instruments), Bowl Sterilizer Big, Bowl Sterilizer Medium, Diathermy Machine (Electric Cautery), Suction Apparatus–Electrical, Suction Apparatus-Foot operated, Dehumidifier, Ultra violet lamp Philips model 4 feet, Ethylene Oxide sterilizer, Microwave sterilizer, Intense Pulse Light Machine, Ultrasonic cutting and coagulation device, Plasma Sterilizer and ultrasonic cleaner.

7 Sterilization with ethylene oxide is the only method that effectively sterilizes and does not damage the device during the sterilization process.

8 The ultrasonic cutting and coagulation device is a more effective surgical device compared to conventional techniques in thyroidectomy. Its use offers several clinical advantages, including reduced operating time, intra-operative blood loss, drainage volume, and post-operative pain and length of hospital stay which can ultimately benefit the surgeon, patient and hospital.

checked DHs/JHs, therefore, were not as desired thereby impacting the quality of surgical treatments in these test checked DHs/JHs.

4.5.3 Availability of OT Technician

As per IPHS, four to 14 OT technicians should be available in a district hospital depending upon its bed capacity.

Audit observed that no post of OT technician was sanctioned in any of the test checked DHs/JHs except in JH Udham Singh Nagar where only one post was sanctioned. Thus, hospital authorities had to rely upon alternative arrangements.

4.5.4 Documentation related to OTs

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.

During audit, it was noticed that these vital records were not maintained in any of the test checked DHs/JHs. In the absence of these records for OTs, it was not ascertainable whether safety procedures in OTs were adhered to in the test checked DHs/JHs.

4.6 Intensive Care Unit Services

Intensive Care Unit (ICU) is essential for critically ill patients requiring highly skilled life-saving medical aid and nursing care. These include major surgical and medical cases such as head injuries, severe haemorrhage, poisoning, *etc*.

4.6.1 Availability of ICU services

As per IPHS, ICU services in a district hospital are essential for providing minimum assured services.

However, ICU facility had been set up only in JH Chamoli and JH Udham Singh Nagar. Audit also observed that the units were non-functional due to lack of essential equipment and specialised manpower. It was noticed that three ICU beds and three Step Down beds were available in JH Chamoli since 2005-06. An estimate (₹ 2.02 lakh) for increasing the bed capacity in ICU along with a proposal for providing essential equipment[9]/furniture and required manpower[10] was submitted (August 2019) by the hospital to DGMH &FW. Neither the required funds nor the required manpower was made available to JH Chamoli (20 March 2020). In JH Udham Singh Nagar, the facility was also non-functional due to non-availability of essential equipment and required manpower.

In view of the fact that the Department was unable to utilise 13 *per cent* of released funds during the last five years (2014-19), non-provision of equipment and resources to set up ICU and make it functional in all the district hospitals is inexcusable.

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[9] ICU Bed with all accessories, ICU Bed step down with all accessories, Cardiac Table, Central Oxygen Port, ABG Machine, ECG Machine, Bed side Monitor, Central Cardiac Monitor, Infusion Pump, *etc*.

[10] 09 specialist doctors, 30 paramedical staff and 11 administrative and class IV staff.

In the absence of ICU facility, the patients approaching district hospitals despite being in an emergent condition were likely to be referred and/or passed on to higher public or private hospitals wasting precious time. The referral cases and patients taken to higher medical facility on their own risk due to hospitals being unable to provide ICU services have also been discussed in ***paragraph 4.11.2.3***.

In the Exit Conference, the Government stated that ICU infrastructure was not created in all hospitals due to non-availability of dedicated staff. However, in response to the Covid-19 pandemic, the Government had created ICU infrastructure in the hospitals. It was further stated that the standardisation of resources and services would be met with the adoption of IPHS.

4.7 Emergency Services

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

4.7.1 Availability of Emergency Services

As per IPHS, 24x7 operational emergency with dedicated emergency room shall be available with adequate manpower. Emergency should have mobile X-ray/laboratory, side labs/plaster room/and minor OT facilities. Besides, separate emergency beds may be provided.

Audit noticed that 24x7 emergency services were available in all the test checked DHs/JHs but emergency OT; and accident and trauma care services were not available in any of the test checked DHs/JHs including JH Chamoli where infrastructure was created as discussed in ***paragraph 4.7.1.2***.

4.7.1.1 Availability of Emergency Medical Officers

The details of availability of EMOs are shown in **Table-26** given below:

Table-26: Availability of EMOs in test checked DHs/JHs

Name of DHs/JH	Sanctioned strength	Availability of EMOs*				
		2014-15	2015-16	2016-17	2017-18	2018-19
DH Almora	2	1	1	0	1	1
DH Haridwar	3	2	1	1	1	2
JH Chamoli	3	0	0	1	1	0
JH Udham Singh Nagar	5	1	0	1	0	1

Source: Information collected from test checked DHs/JHs.
****In DH Almora, EMO was available only from 01.04.15 to 05.06.15.***
In DH Haridwar, one out of two EMOs was available only from 01.04.2014 to 30.06.2014 during 2014-15. EMO was available only from 01.04.2015 to 30.05.2015, 04.07.2016 to 30.11.2016 and 27.06.2017 to 31.07.2017 during 2015-16, 2016-17 and 2017-18 respectively.
In JH Udham Singh Nagar, EMO was available only from 01.04.2014 to 01.11.2014, 21.05.2016 to 31.10.2016 and 25.04.2018 to 22.11.2018 during 2014-15, 2016-17 and 2018-19 respectively.

It was also noticed that Emergency Medical Officers (EMOs) were not available fulltime in any of the test checked DHs/JHs during the period 2014-19. It can also be seen that

EMOs were not posted as per the sanctioned strength in test checked DHs/JHs during 2014-19. As a consequence, OPD doctors were deployed for emergency duty. Resultantly, the OPD duty of the doctor concerned and the consultation time available to patients suffered.

4.7.1.2 Non-functioning of Trauma Centre

Trauma Centre for strengthening and boosting the emergency services at JH Chamoli was inaugurated by Hon'ble Chief Minister of Uttarakhand (20 February 2009) but remained non-functional (20 March 2020) due to non-deployment of required specialist manpower such as Surgeon (2 posts); Orthopaedic Surgeon (2 posts); Radiologist (2 posts); and Anaesthetist (2 posts); supporting staff like staff nurse (6 posts); and non-availability of essential equipment such as CAT scan.

In the Exit Conference, the Government stated that due to non-availability of required specialised manpower, the Trauma Centre of JH Chamoli could not be made functional.

4.7.2 Availability of essential drugs for emergency services

To ascertain the availability of essential drugs in the emergency department of test checked DHs/JHs, Audit examined availability of 21 types of essential drugs[11] during the sampled months, as shown in the **Table-27** given below:

Table-27: Availability of essential drugs in DHs/JHs

Name of the hospital	Number of drugs available out of the 21 test checked drugs				
	May-2014	Aug-2015	Nov-2016	Feb-2018	May-2018
DH Almora	11	15	10	10	15
DH Haridwar	14	15	09	13	13
JH Chamoli	16	15	17	14	16
JH Udham Singh Nagar	14	14	14	14	14

Source: information collected from test checked DHs/JHs.

- Essential drugs such as Calcium Gluconate and Diazepam and Nifedipine were out of stock in test checked DHs/JHs during 25 to 85 *per cent* in the sampled period.
- Methyldopa and Injection Hydralazine were not available in any of the test checked DHs/JHs during the entire sampled period.
- Anti-tetanus human immunoglobulin was not available in DH Almora and JH Udham Singh Nagar during sampled months.

The shortage of essential drugs indicates that either the quality of treatment was compromised, or the patients were compelled to buy these drugs from outside, at their own cost.

[11] Ampicillin, Anti Tetanus Human Immunoglobin, Atropine sulphate, Injection Calcium Gluconate, Injection Ceftriaxone, Injection Carboprost, Injection Diazepam, Diclofenac Sodium, Injection Fortwin, Injection Hydralazine, Injection Hydrocortisone, IV fluids, Injection Magsulf, Injection Metronidazole, Methyldopa, Nifedipine, Normal Saline, Injection Phenergan, Pheniramine maleate, Polyvalent Snake Venom and Ringer lactate.

4.7.3 Availability of equipment for Emergency Services

As per NHM Assessor's Guidebook, 14 types[12] of essential equipment should be available in emergency wing of a district hospital. Scrutiny of records of the sampled months revealed that:

- 29 to 64 *per cent* of 14 types of essential equipment were not available in test checked DHs/JHs.
- Vital equipment such as Laryngeal Mask Airway, Crash Cart and HIV kit were not available in any of the test checked DHs/JHs.
- Defibrillator was not available in DH Almora and DH Haridwar whereas Laryngoscope was not available in JH Udham Singh Nagar.

4.7.4 Triaging of patients and average turnaround time

Triaging is defined as prioritising or sorting the patients for the care and treatment because of shortage of the necessary resources in the emergency department. NHM Assessor's Guidebook prescribes standard treatment protocol for triaging[13] of patients getting admitted in emergency department. The DH Haridwar and JH Udham Singh Nagar stated that no triaging was conducted during the period 2014-19 while DH Almora and JH Chamoli stated that triaging was done but records were not maintained. Due to non-maintenance of relevant records, audit could not ascertain the average turnaround time of the patients admitted in the emergency department. Thus, assurance could not be drawn regarding efficacy of the emergency services in terms of classification of patients according to the criticality of their condition and the turnaround time.

4.8 Ambulance Services

As per IPHS, a district hospital is required to have three running ambulances with well-equipped Basic Life Support (BLS). It should be desirable to have one Advanced[14] Life Support (ALS) ambulance. There shall be a dedicated parking space separately for ambulances near emergency. Serviceability and availability of equipment and drugs in ambulance are required to be checked on a daily basis. It was observed that:

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12 BP Apparatus, Multipara torch, Glucometer, ECG machine, HIV Kit, Ambu bag(s), Defibrillator, laryngoscope, Suction apparatus, Laryngeal Mask Airway, Crash Cart, Drug Trolley, Instrument Trolley and Dressing Trolley.

13 The process of sorting people based on their need for immediate medical treatment as compared to their chance of benefiting from such care.

14 The ALS Ambulance is equipped with state-of-the-art heart and blood pressure monitoring equipment, pulse oximeter, IV pumps, airway equipment (oxygen delivery devices) including a CPAP, glucose testing device and advanced medications used to treat a variety of illnesses and provide pain relief.ALS is designed for pre-hospital life support and transportation of a patient to the hospital during an emergency. An ALS unit will have a paramedic along with Emergency Medical Technician who can administer medication to a patient.

- None of the test checked hospitals had three running ambulances[15] with well-equipped BLS.
- The ambulance with ALS was not available in any of the test checked hospitals.
- The available ambulances were running with expired fitness, insurance and pollution certificates which are mandatory for the operation of a vehicle.
- The available vehicles were not provided with adequate technicians as required under IPHS. Oxygen cylinders were available in eight out of nine running ambulances but were operated by the drivers whereas this service should ideally have two technicians.
- Serviceability and availability of equipment and drugs in ambulance were not being checked on a daily basis by any of the test checked hospitals.
- The logbooks of the ambulance service of DH Almora, JH Udham Singh Nagar, DFH Haridwar and DH Haridwar showed that these were used for multiple purposes such as dak delivery, electricity bill payments and attending court cases.
- The ambulances lacked drugs and equipment that are required to be necessarily available in each ambulance[16].
- Physical inspection of the hospitals also revealed that although a dedicated parking space for ambulance was separately provided, it was not near to the emergency unit in DH Almora. Further, despite written notices on the wall and complaints made to police authorities, the private vehicles were allowed to be parked obstructing the exit of the ambulance as seen in the ***Photograph-1***.

Photograph-1: District Hospital, Almora

- No ambulance service was available in DFH Almora which was dependent on 108 for providing the services. Besides, it had no approach road and parking facility for ambulance.

In the Exit Conference, Government stated that ambulances with BLS and ALS facilities were in the process of procurement and these would be operated by 108-service provider.

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[15] DH Almora:1, DH Haridwar:1, DFH Haridwar:1, JH Chamoli: 3 and JH Udham Singh Nagar:3 but none of these ambulances were well equipped with BLS.

[16] Test checked ambulances lacked critical equipment to administer venoclysis (used for slow infusion of medicine, serum, *etc*. into the vein of the patient), conduct resuscitation manoeuvres (used to correct lack of breathing/ heartbeat), immobilize fractures (to keep fractured body part from moving), undermining the potential of emergency ambulance services run by the test checked hospitals to provide the requisite critical care and treatment to the patients.

It was further added that necessary instructions would be given to the district hospitals to obtain the necessary certificates for operation of ambulances.

4.9 Dietary Services

4.9.1 Distinctive dietary requirement not met

The dietary service of a hospital is an important therapeutic tool. The IPHS stipulate that apart from the normal diet, the food supplied should be patient specific such as diabetic, semi solid and liquid.

Positive feature

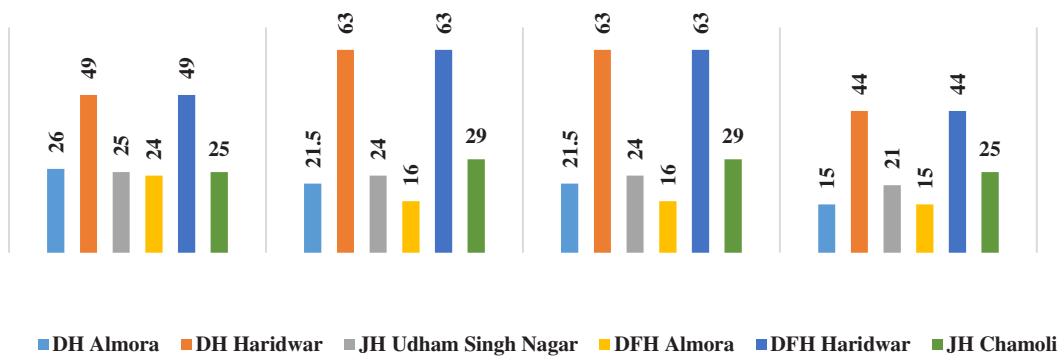
Free of cost diet was being provided to all indoor patients three times a day in the test checked hospitals.

It was noticed in audit that all patients were given similar diets thereby ignoring the distinctive dietary requirements of different categories of patients. It was further noticed that none of the test checked hospitals had adopted system of diet counselling to the patients; formulation of caloric requirement and accordingly setting of diet for the patients.

4.9.2 Expenditure on dietary services

Audit observed that the dietary services in all test checked hospitals were outsourced during the period 2014-19. However, there was substantial variation in expenditure per diet during 2018-19 in the test checked hospitals as shown in **Chart-4** below:

Chart-4: Expenditure per diet in test checked hospitals (2018-19)



The expenditure per diet in 2018-19 in four test checked hospitals when compared with other two was far below. It was further observed that the rates provided for the supply of food by the contractor of three hospitals[17] were not realistic keeping in view the current open market rates for milk, eggs, fruits, *etc*. Audit observed that the service provider was not providing diet as per agreement and the patients were distributed non-packed milk in lieu of agreed packed milk; the quantity of milk as agreed was also not served; breakfast was served without fruits and lunch without curd, fruit, rice, *etc*. in test checked hospitals.

[17] DH Almora, DFH Almora and JH Udham Singh Nagar.

However, full payment as agreed for lunch, breakfast and dinner was made to the contractor.

In the Exit Conference, the Government assured that instructions would be issued to the hospitals to ensure availability of specific diets to the patients. It was further added that appropriate direction would be issued in regard to variation in expenditure per diet.

4.9.3 Hygiene practices not followed in serving the diet

As per Kayakalp guidelines, for maintenance of proper hygiene and infection-free environment in the kitchen, there is a minimum requirement of covered trolley for food distribution; separate room for storage[18]; adequate supply of treated water[19]; and refrigerators for storage of food items.

It was noticed during physical inspection that:

- The available serving trolley in DH Almora, DH Haridwar and DFH Haridwar was not being utilised for serving food due to stairs in front of the kitchen in Almora; blocked approach of kitchen in DH Haridwar and big steel trolley in DFH Haridwar, whereas no serving trolley was available in DFH Almora. Further, protective gears[20] were not used by the cooks in kitchen and by those who served food to the IPD occupants.
- It was noticed in DFH Almora that instead of keeping mops, brooms, cleaning material and buckets in the janitor room, these were placed adjacent to the kitchen window along with biomedical waste as seen in the ***Photograph-2*** alongside.

Photograph-2: District Female Hospital, Almora

4.9.4 Quality testing of meals

As per IPHS, the quality of diet should be checked by a competent person on a regular basis.

It was observed that in all the test checked hospitals, the sister was doing quality testing of the diets provided to the in-patients during 2014-19. However, the food distributed to the patients were never examined by the food inspector or district authorities from time to time in any of the test checked hospitals.

In the Exit Conference, the Government stated that food inspectors would be instructed to check the quality of food served by the contractors.

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18 For storage of raw material, vegetables with appropriate numbers of refrigerators, racks, *etc*.

19 If bore well/well water is used, there should be a provision for disinfection using chlorine or boiling before use.

20 Apron, head gear, clear plastic gloves when dispensing food.

4.9.5 Availability of kitchen

NHM Assessor's Guidebook envisages that the health facility must have standard procedures for preparation, handling, storage and distribution of food as per the requirement of diet by patients. It is, therefore, imperative that each hospital is equipped with its own in-house kitchen for preparation of meals as per the specific dietary requirements of patients and also for ensuring maintenance of hygiene during cooking.

- Scrutiny of records revealed that in-house kitchen facility was not available in DFH Haridwar during the period 2014-19. It was found that kitchen of DH Haridwar was used jointly by DH Haridwar and DFH Haridwar and it was 500 metres away from the campus of DFH, Haridwar.

The availability of other facilities in the kitchen of test checked hospitals is given in the **Table-28** below:

Table-28: Availability of facilities in Kitchen

Facilities	DH		JH		DFH	
	Almora	Haridwar	Udham Singh Nagar	Chamoli	Almora	Haridwar
Refrigerator	Yes	Yes	Yes	Yes	No	Kitchen shared with DH Haridwar
Water purifier	Yes	Yes	No	No	No	
Storage room	No	Yes	No	Yes	No	

Source: Information collected from test checked hospitals.

The test checked hospitals did not ensure provision of storage room to contractor while the contractor did not install other essential items[21] in the kitchen.

- Domestic gas cylinder instead of Commercial cylinder was used in the kitchen of DFH Almora and DH Haridwar.
- The inventory of kitchen equipment was not available in any of the test checked hospitals.
- Minimum number of staff required/deployed for cooking and for distribution of cooked food to the IPD patients was not specified in the agreement by any of the test checked hospitals.
- FSSAI registration certificate[22] issued under Food Safety and Standards Act, 2006 had expired[23] in three test checked hospitals. No action was taken by the hospital management to get it renewed by the contractor.

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21 Refrigerator for storage of raw material and water purifier for getting clean and quality water.

22 As per FSSAI rules, any Registration or license for which renewal has not been applied for within the period mentioned in Regulation 2.1.7 (2) or 2.1.7(4) shall expire and the Food Business Operator shall stop all business activity at the premises**.** The Food Business Operator will have to apply for fresh Registration or license as provided in Regulation 2.1.1 and 2.1.3 as the case may be, if it wants to restart the business.

23 JH Udham Singh Nagar- 16 April 2019, DH Haridwar- July 2017, DH Almora- July 2018.

- In three test checked hospitals, the contractors were running kitchen with expired[24] Labour registration certificate.
- The kitchen of DH Haridwar was not maintained in a sound condition. The floors, ceilings and walls of the kitchen were in dilapidated conditions. During physical inspection of the kitchen, it was found that the roof of the kitchen was leaking due to rain (8 January 2020) as seen in the ***Photograph-3*** below:

Photograph-3: Kitchen was leaking due to rain at DH Haridwar

In Exit Conference, the Government stated that appropriate direction would be issued in regard to deployment of manpower for dietary purposes and DH Haridwar would be instructed to take up maintenance work with its own funds.

4.10 Patient Safety

4.10.1 Disaster management capability of hospitals

The only rational manner in which hospitals can be prepared for disasters is by increasing their resilience and reducing their vulnerability by strengthening both structural and operational aspects of the hospital, such that they achieve a reasonable degree of safety. Therefore, preparing for expected and unexpected threats in advance is the best way to ensure that damages are as minimal as possible. In this regard, healthcare facilities can prepare by integrating smart technologies into existing infrastructure to improve the safety aspects.

4.10.2 Plan to manage disasters, fire and mass casualty incidents

As per State Disaster Management Action Plan for the State of Uttarakhand, State plan should streamline with overall health policy and health plan to address the preventive, mitigation and response plan in event of a disaster.

[24] JH Udham Singh Nagar- 31 March 2019, DH Haridwar- 31 March 2019, DFH Almora- 31 March 2019.

Test check of records disclosed that the hospitals neither prepared plans nor standard operating procedures (SOP) to manage disasters and mass casualty incidents during the period 2014-19 with the exception being DFH Haridwar which had prepared SOP. Besides, buffer stock of medicines to meet out emergent situation like disasters, fire and mass casualty incidents was not maintained during the period 2014-19 by any of the test checked hospitals except Almora. The hospitals, therefore, failed to prepare themselves in advance for the expected and unexpected threats to ensure as minimal damages as possible.

In the Exit Conference, the Government stated that that fire safety plan and SOP to manage fire and other disasters was prepared at district level under the guidance of District Magistrate. Reply is not acceptable as IPHS envisaged every district hospital to have a dedicated disaster management plan in line with state disaster management plan.

4.10.3 Safety from Fire

Minimum requirements for a reasonable degree of safety from fire emergencies in hospitals must be met, such that the probability of injury and loss of life from the effects of fire are reduced. In this regard, measures shall be taken to limit the development and spread of fire by providing appropriate arrangements within the hospital through adequate staffing and careful development of operative and maintenance procedures consisting of design and construction; provision of detection, alarm and fire extinguishers; fire prevention; planning and training programs for isolation of fire; and transfer of occupants to a place of comparative safety or evacuation of the occupants to achieve ultimate safety.

It was observed that fire safety audit was not conducted in four hospitals[25] during 2014-19. Further, No Objection Certificate required to be obtained from the Fire Department was also not given to four test checked hospitals[26] for various reasons such as equipment being old, not refilled, inadequate hydrants, and less number of extinguishers.

4.10.4 Availability of fire equipment

National Building Code of India 2016, Part-4, Fire and Life Safety requires that fire extinguishers must be installed in every hospital, so that in case of any fire in the hospital premises, the safety of the patients/attendants/visitors and the hospital staff may be ensured.

The details of availability of fire extinguishers and other items in test checked hospitals during 2018-19 are shown in **Table-29** given below:

[25] DH Almora, DH Haridwar, JH Udham Singh Nagar and JH Chamoli.
[26] DH Almora, DFH Almora, DH Haridwar and JH Udham Singh Nagar.

Table-29: Details of availability of fire equipment

Equipment/Statutory compliance			DFH		JH		DH	
			Almora	Haridwar	Udham Singh Nagar	Chamoli	Almora	Haridwar
Total functional beds			38	56	168	135	59	70
NOC granted (Yes/No)			No	Yes	No	Yes	No	No
Provision of Detection	Smoke detector		No	Yes	No	No	No	No
	Alarm		No	Yes	No	No	Yes	No
For meeting fire exigencies	Extinguishers	**2014-15**	5	29	25	36	17	10
		2018-19	13	34	29	34	27	25
	Fire Hydrants		1	9	No	No	5	No
	Sand buckets		Yes	Yes	No	Yes	Yes	No
	Underground backup water for fire		No	Yes	No	No	No	No
Evacuation	Signage		No	Yes	Yes	Yes	Yes	No

Source: Information collected from hospitals.

- Four out of the six test checked hospitals could not ensure compliance of the suggestions given by the fire department. As a result, NOC was not granted to these hospitals. Further, the following shortcomings were noticed in the test checked hospitals:
- As per the hospital safety guidelines for Fire Fighting, the underground static water tank should remain full at all times to meet any contingency. However, in five out of six test checked hospitals, the underground static water tank was not constructed for meeting the fire contingency.

Positive feature

DFH Haridwar had ensured all safety measures for the safety of the patients/attendants/visitors and the hospital staff.

- Fire hydrants[27] intended to provide water to the firemen were not installed in three out of six hospitals**.**
- Illuminated signage for fire exit was not available in two out of six test checked hospitals.
- DH Haridwar and JH Udham Singh Nagar had not installed extinguishers at power backup area.

In the Exit Conference, it was stated by the Government that instructions would be issued to all hospitals to place a demand for procuring fire safety equipment so that the fire safety norms are ensured.

4.10.5 Other findings related to fire safety

Records of DFH, Almora revealed that the hospital building was an old structure constructed with woodwork. It was, therefore, essential for the hospital authorities to take adequate precautions to prevent mis-happenings caused due to fire. However, it was noticed that:

[27] Fire hydrant installation consists of a system of pipe work connected directly to the water supply main to provide water to each and every hydrant outlet and is intended to provide water to the firemen. The water is discharged into the fire engine from which it is then pumped and sprayed over fire.

- Hospital had single evacuation door.
- There was no place to transfer occupants to a comparative safe place.
- Non-repairable generator was also obstructing the fire safety equipment as seen in the ***Photograph-4*** alongside. There were insufficient fire hose reels[28] in the hospital.

Photograph-4: DFH Almora

Records of the DH Haridwar revealed that due to short circuit fire occurred in the premises of hospital in the midnight of 15-16 August 2015 which was timely diffused by the fire brigade. However, in its report (May 2016) the Fire Brigade Department, Haridwar, pointed out that the safety measures were not in place to meet untoward incidents for the safety of occupants and property of hospital. As per the suggestion made by the fire department, the hospital was required to provide all floors with hose reels with enough stored water on each floor; install terrace pump, fire alarm system and smoke analyser in wards; and to keep all exit doors cleared. Audit, however, observed that these items were not yet installed in the hospital even after lapse of four years. During physical inspection, it was also noticed that evacuation doors were blocked by vehicles as seen in ***Photograph-5***. The facts were accepted by DH Haridwar and it was further stated that necessary action would be taken in this regard. Thus, the safety of the patients/attendants/visitors and the hospital staff was compromised.

Photograph-5: DH Haridwar

4.11 Evaluation of in-patient services through Outcome Indicators

The IPD services can be evaluated through Outcome Indicators *viz*. Bed Occupancy Rate (BOR), Bed Turnover Rate (BTR), Discharge Rate (DR), Referral Out Rate (ROR), Average Length of Stay (ALOS), Left Against Medical Advice (LAMA) Rate and Absconding Rate.

4.11.1 Evaluating productivity of the hospitals

4.11.1.1 Bed occupancy rate

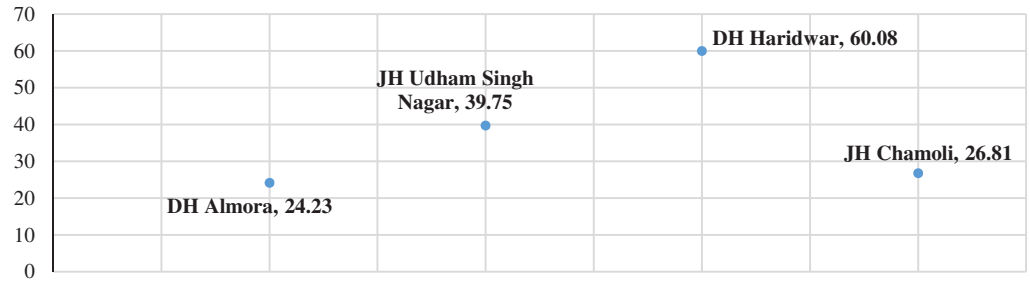
The Bed Occupancy Rate (BOR)[29] is an indicator of the productivity of the hospital services and is a measure of verifying whether the available infrastructure and processes

[28] Fire *hose reels* are located at strategic places in buildings to provide a reasonably accessible and controlled supply of water for fire extinguishing.

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

are adequate for delivery of health services. As per IPHS, it is expected that the BOR of a hospital should be at least 80 *per cent*. High BOR is a sign of good productivity of the hospital. Average BOR in the test checked DHs/JHs during sampled period was as per **Chart-5** below:

Chart-5: Average BOR (in *per cent*)

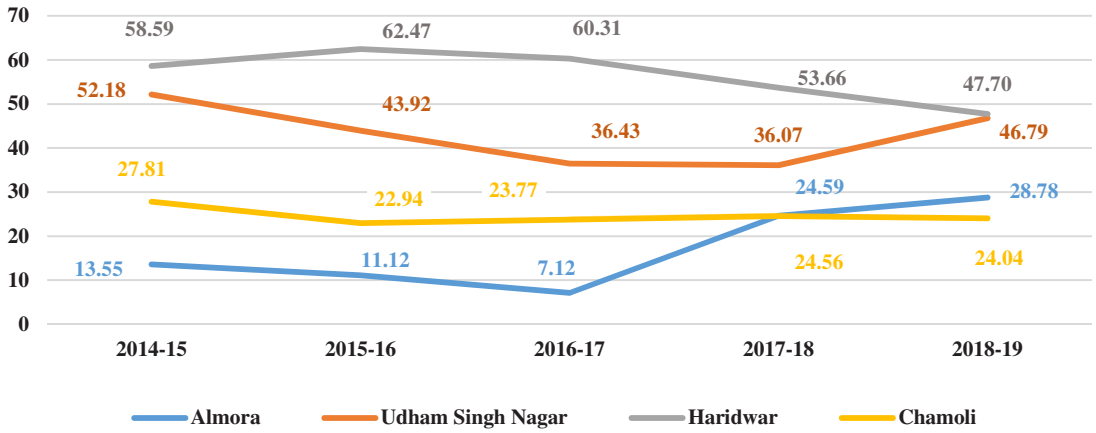


Benchmark[30]-80 *per cent*

The average BOR in all the test checked hospitals remained very low against the norm of 80 *per cent* for the test checked months.

The trend during the period 2014-15 to 2018-19 for BOR in the test checked DHs/JHs is given in **Chart-6** below:

Chart-6: BOR in District Hospitals



4.11.2 Evaluating efficiency of the hospitals

4.11.2.1 Bed Turnover Rate (BTR)

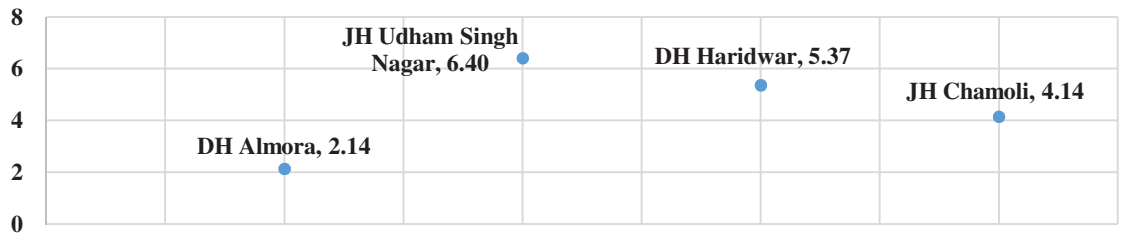
The Bed Turnover Rate (BTR)[31] is a measure of the utilization of the available bed capacity and serves as an indicator of the efficiency of the hospital. High BTR indicates high utilization of the in-patient beds in a hospital while low BTR could be due to fewer

[30] As per IPHS.

[31] BTR=Total No. of discharges (including Referral, LAMA, Absconding and Death)/Total No. of functional beds.

patient admissions or longer duration of stay in the hospitals. Average BTR in the test checked hospitals in sampled months was as per **Chart-7** below:

Chart-7: Average BTR



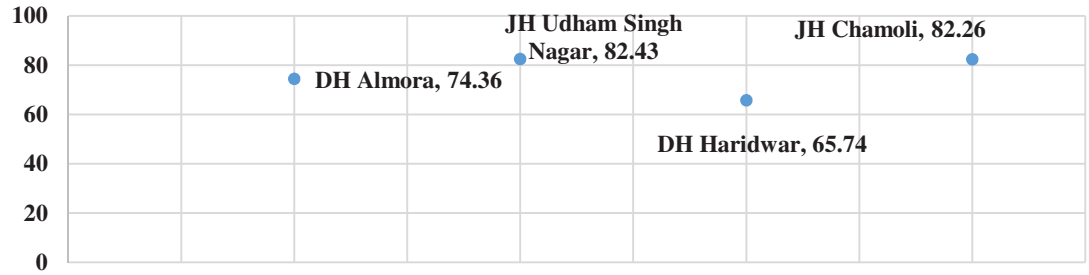
Benchmark[32]-5.36

The efficiency of the hospital as indicated by BTR was on lower side in DH Almora and JH Chamoli in test checked months during the period 2014-19.

4.11.2.2 Discharge Rate (DR)

Discharge Rate (DR)[33] measures the number of patients leaving a hospital after receiving due health care. High DR denotes that the hospital is providing health care facilities to the patients efficiently. Average DR in the test checked DHs/JHs during sampled months was as per **Chart-8** below:

Chart-8: Average Discharge Rate (in *per cent*)



Benchmark[34]-78.90 *per cent*

The lowest DR was in DH Haridwar indicating that the hospital was the most under-performing hospital among the test checked DHs/JHs. Further, DH Almora also did not perform well in terms of the DR.

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[32] Weighted average with average IPD load of sampled months as the weight.

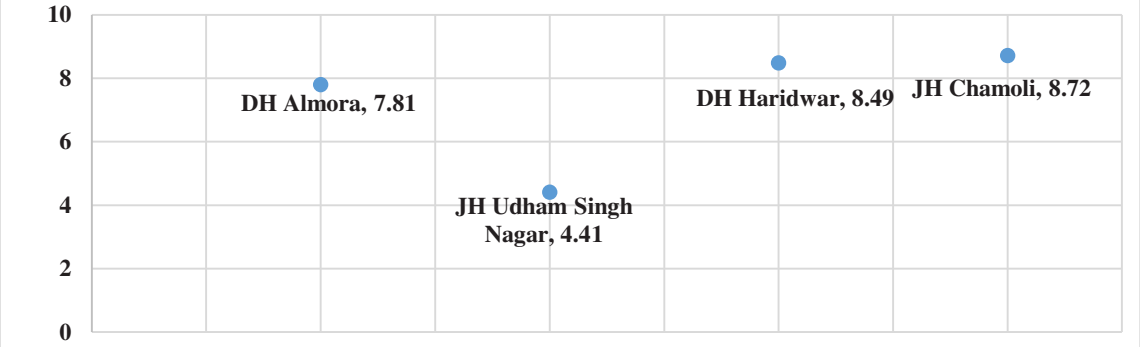
[33] DR=Total No. of discharges (excluding Referral, LAMA, Absconding and Death) *100/Total No. of Admissions.

[34] Weighted average with average IPD load of sampled months as the weight.

4.11.2.3 Referral Out Rate (ROR)

Referral to higher centres denotes that the facilities for treatments were not available in the hospitals. Average Referral Out Rate[35] in the test checked DHs/JHs during sampled months was as per as per **Chart-9** below:

Chart-9: Average ROR (in *per cent*)

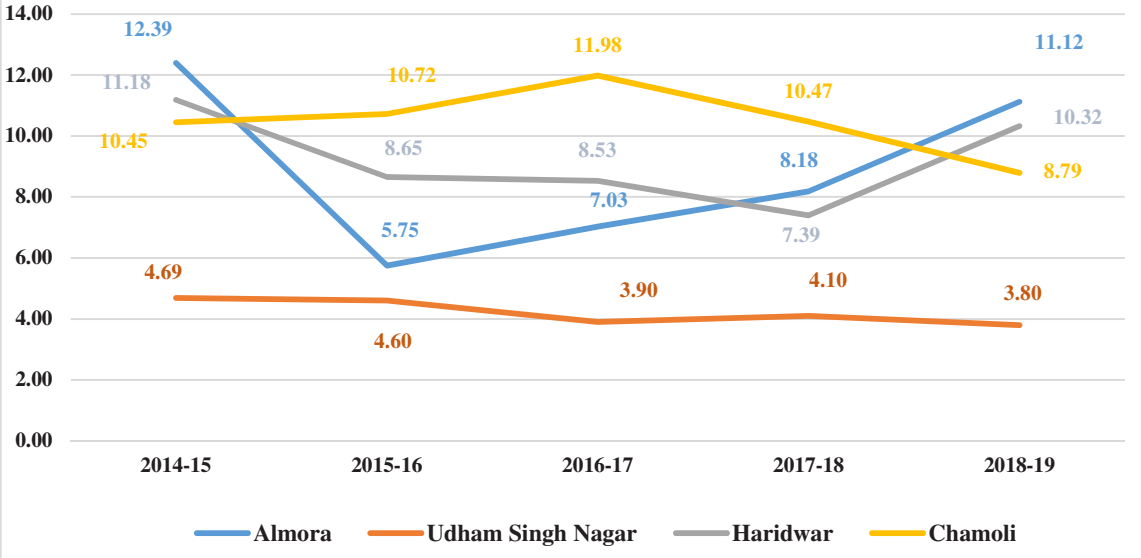


Benchmark[36]-6.50 *per cent*

The ROR in JH Chamoli, DH Haridwar and DH Almora was on the higher side indicating that health care facilities were not adequate in these hospitals.

The trend during the period 2014-15 to 2018-19 for ROR in the test checked DHs/JHs is given in **Chart-10** below:

Chart-10: ROR in District Hospitals

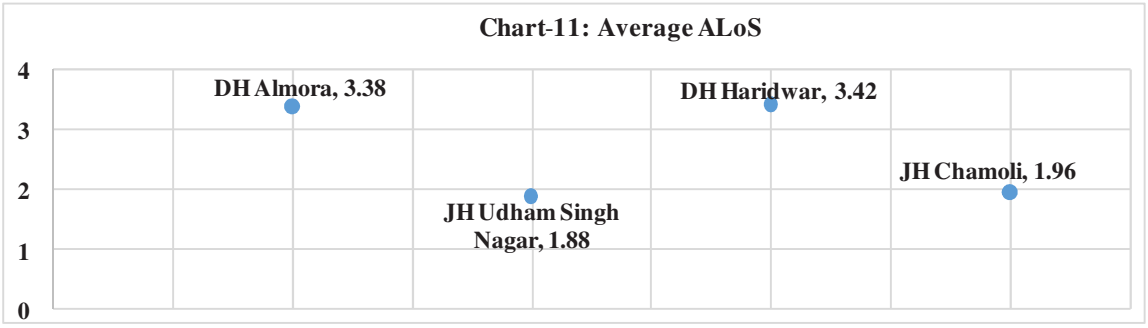


[35] ROR=Total No. of patients referred to higher facility*100/Total No. of Admissions.
[36] Weighted average with average IPD load of sampled months as the weight.

4.11.3 Evaluating clinical care capability of the hospitals

4.11.3.1 Average Length of Stay (ALoS)

Average Length of Stay (ALoS)[37] is an indicator of clinical care capability and to determine effectiveness of interventions. ALoS is the time between the admission and discharge/death of the patient. Average ALoS (in days) in the test checked DHs/JHs in sampled months was as per **Chart-11** below:



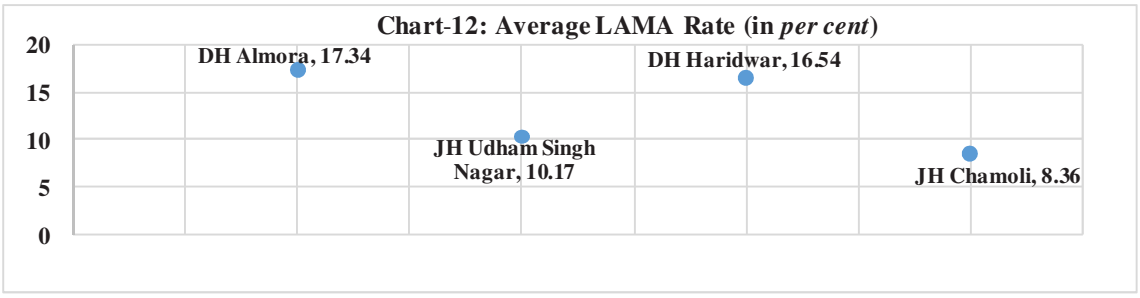
Benchmark[38]-2.27

The average ALoS in JH Udham Singh Nagar and JH Chamoli remained too low which indicate that clinical capability of these hospitals was not adequate in test checked months during the period 2014-19.

4.11.4 Evaluating service quality of the hospitals

4.11.4.1 LAMA Rate

To measure service quality of a hospital, leave against medical advice (LAMA)[39] rate is evaluated. LAMA is the term used for a patient who leaves the hospital against the advice of the doctor. Average LAMA Rate in the test checked DHs/JHs in sampled months was as per **Chart-12** below:



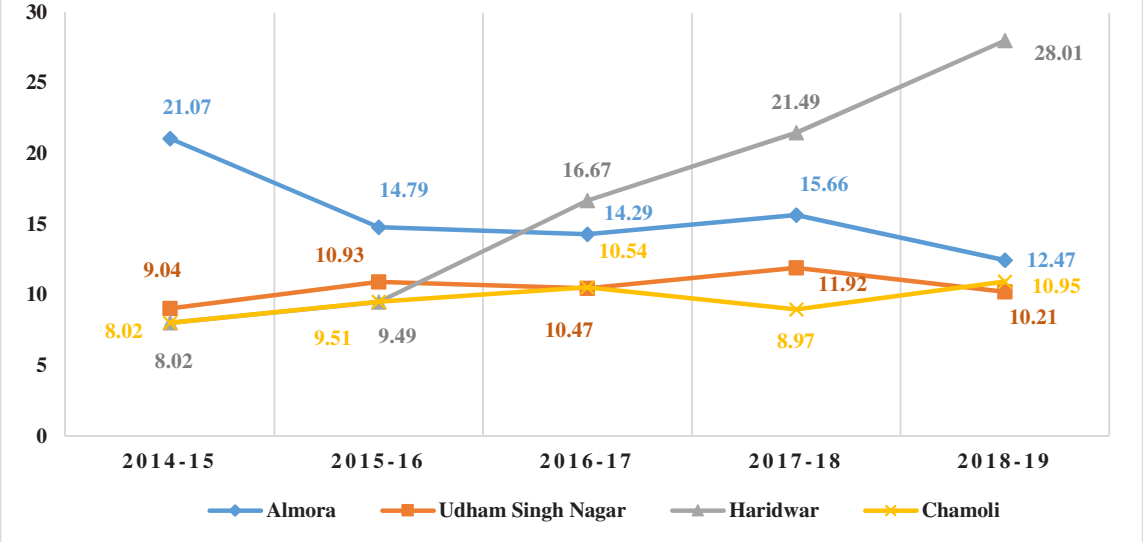
Benchmark[40]-11.25 *per cent*

[37] ALoS=Total patient bed days/Total No. of discharges (including Referral, LAMA, Absconding and Death).
[38] Weighted average with average IPD load of sampled months as the weight.
[39] LAMA=Total No. of LAMA cases*100/Total No. of Admissions.
[40] Weighted average with average IPD load of sampled months as the weight.

The average LAMA rate in DH Haridwar and DH Almora was too high in test checked months during the period 2014-19 indicating that the service quality in these hospitals was well below the desired level.

The trend during the period 2014-15 to 2018-19 for LAMA in the test checked DHs/JHs is given in **Chart-13** below:

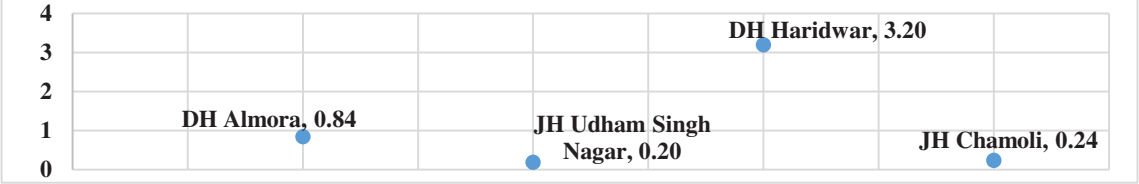
Chart-13: LAMA Rate in District Hospitals



4.11.4.2 Absconding Rate (AR)

To measure service quality of a hospital, Absconding Rate[41] is evaluated. Average AR in the test checked DHs/JHs in sampled months was as per **Chart-14** below:

Chart-14: Average Absconding Rate (in *per cent)*



Benchmark[42]–0.79 *per cent*

The average AR in DH Haridwar was extremely high in test checked months during the period 2014-19 indicating poor service quality and lack of security arrangements in the DHs/JHs.

41 Total No. of Absconding cases*100/Total No. of Admissions.
42 Weighted average with average IPD load of sampled months as the weight.

4.11.4.3 Completeness of medical records

Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002, contains format for doctors to maintain medical records of patients in which details of the patients were required to be filled. These records are essential to measure effectiveness of care received by the patient for legal purposes as well as for follow-up treatment. Scrutiny of the test checked Bed Head Tickets (BHTs) of sampled days disclosed that the occupation and follow-up of the patients was not being mentioned on BHTs of the patients concerned.

Lack of properly filled-up BHTs would have adverse impact on medical care provided to a patient, especially in cases of follow up or referral to higher facilities.

4.11.4.4 Patient Satisfaction Survey

Patient Satisfaction Survey (PSS) score is an indicator of patient satisfaction and acts as an important monitoring and feedback mechanism for the IPD. It was observed that only in DFH Haridwar and JH Udham Singh Nagar, PSS had been conducted during the year 2018-19.

(i) Outcome of Patient Satisfaction Survey conducted by Audit

Patient Satisfaction Survey of IPD patients in all the test checked DHs/JHs was carried out by the audit team.

Positive feature
The patients were highly satisfied with availability of water and clean toilets in the test checked DHs/JHs.

The Patient Satisfaction Survey response was extrapolated for all the IPD patients in the test checked DHs/JHs. The estimates of percentage of patients[43] satisfied with various services are shown in the **Table-30** given below:

Table-30: Estimates of Percentages in respect of IPD with 95 *per cent* Confidence Interval

Sl. No.	District Hospital	DH Almora	JH Udham Singh Nagar	DH Haridwar	JH Chamoli
1.	**Dietary Services: percentage satisfied**				
(i)	Quality of food	21-40	27-43	84-95	21-40
(ii)	Quantity of food	67-85	27- 43	82-94	24-43
(iii)	Meeting requirement of specific diets	15-34	24-39	33-51	16-34
2.	**Laundry Services: percentage satisfied**				
(i)	Availability of clean, dry & ironed linen	23-42	6-16	18-34	28-48
(ii)	Regular changing of bed linen	10-27	3 -13	8-20	24-43
(iii)	Availability of clean house coat/pyjama *etc*.	Lower limit negative[44]	20-34	23-40	Not Estimated[45]

The satisfaction level of the patients regarding laundry services was low. Besides, the satisfaction score regarding availability of specific diets (diabetic, liquid, semi-solid) was also poor.

[43] Rounded to nearest whole number.
[44] All patients are dissatisfied/highly dissatisfied.
[45] All patients are highly dissatisfied.

Besides, the estimates of time taken by doctor to visit a patient after his/her admission in the IPD in the test checked DHs/JHs are shown in **Table-31** given below:

Table-31: Estimation of time taken for doctor's visit after admission with 95 *per cent* Confidence Interval

DH, Almora	JH Udham Singh Nagar	DH Haridwar	JH Chamoli
2.5-3.3 hours	2.7-4.5 hours	2.3-15.8 hours	1.8-2.2 hours

4.12 Outcomes vis-à-vis availability of resources

The relative performance of the test checked DHs/JHs on the various outcome indicators worked out by audit and the corresponding availability of resources as discussed above is summarised in the **Table-32** given below:

Table-32: Outcomes *vis-à-vis* availability of resources in DHs/JHs

Hospital	Productivity	Efficiency			Service quality		Clinical care	Availability of resources			
	Bed Occupancy Rate (*per cent*)	Bed Turnover Rate	Discharge Rate (*per cent*)	Referral Out Rate (*per cent*)	LAMA Rate (*per cent*)	Absconding Rate (*per cent*)	Average Length of Stay (in days)	Doctors (*per cent*)	Nurses (*per cent*)	Essential Drugs (*per cent*)	Clinical Pathology Services (*per cent*)
DH Almora	*24.23*	2.14	*74.36*	*7.81*	*17.34*	*0.84*	3.38	*90*	*83*	*71*	*63*
DH Haridwar	*60.08*	5.37	*65.74*	*8.49*	*16.54*	*3.20*	3.42	*75*	*73*	*60*	*50*
JH Chamoli	*26.81*	4.14	*82.26*	*8.72*	*8.36*	*0.24*	1.96	*61*	*61*	*71*	*40*
JH Udham Singh Nagar	*39.75*	6.40	*82.43*	*4.41*	*10.17*	*0.20*	1.88	*66*	*67*	*53*	*54*
***Benchmark*[46]**	***80***	***5.36***	***78.90***	***6.50***	***11.25***	***0.79***	***2.27***	***100***	***100***	***62.25***	***73.75***

Source: Test checked DHs/JHs.

It is evident that due to inadequate availability of resources, every hospital relative to the other test checked hospitals underperformed in at least one outcome indicator, with the performance of DH Almora and DH Haridwar being, in particular, below par.

***To sum up**, the audit scrutiny of IPD services revealed non-availability of IPD services such as Psychiatry; Accident and Trauma; and Dialysis services[47] in all the test checked DHs/JHs. Besides, there was a substantial shortage of doctors, nurses and para-medical staff. Further, there was a significant shortage of drugs and equipment in IPD, OT and Emergency services. ICU facility was not available in any of the test checked DHs/JHs during 2014-19. Availability of ambulances equipped with basic life support system as per norms was not ensured. Distinctive dietary requirements for different categories of patients were not ensured while the patient safety in the hospital premises was compromised on account of non-compliance with the disaster management guidelines and lack of proper fire safety arrangements in the test checked DHs/JHs. Every hospital relative to the other test checked DHs/JHs under performed in at least one outcome indicator.*

[46] Benchmarks: BOR–as per IPHS, weighted average for rest of the outcome indicators with average IPD patients in sampled months as the respective weight for each hospital, 100 *per cent* (sanctioned strength) for availability of doctors and nurses, and simple mean for drugs and clinical pathology services.

[47] Except in JH Udham Singh Nagar.