

**Chapter VII**  
**Evaluation of Outcome Through**  
**Health Indicators**



## Chapter-VII: Evaluation of Outcome through Health Indicators

This chapter presents an assessment of the IPD services provided during 2014-19 in the test-checked DHs based on certain Outcome Indicators (OIs) prescribed in IPHS guidelines, viz., Bed Occupancy Rate (BOR), Leave Against Medical Advice (LAMA) Rate, Absconding Rate and Referral Out Rate (ROR).

Table 7.1 gives the categorisation and methodology of evaluating these OIs:

**Table 7.1: Calculation of quality indicators**

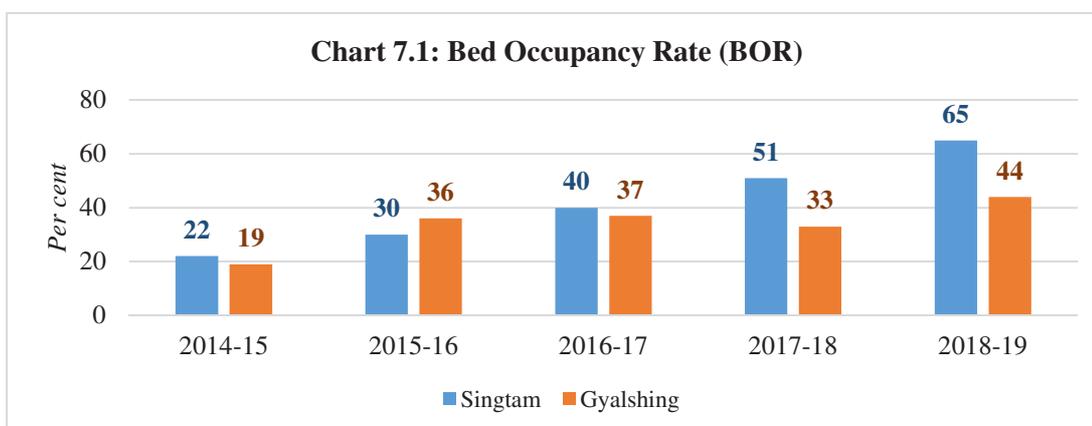
Type	Quality Indicator	Numerator	Denominator
<b>Productivity of hospital</b>	BOR (in <i>per cent</i> )	Total patient bed days x 100	Total no. of functional beds x No. of days in a month
<b>Service quality of hospital</b>	LAMA (Rate/1000)	Total no. of LAMA x 1000	Total no. of admissions
	Absconding (Rate/1000)	Total no. of Absconding cases x 1000	Total no. of admissions
<b>Efficiency</b>	ROR (in <i>per cent</i> )	Total no. of cases referred to higher facility	Total no. of admissions

Source: IPHS

### 7.1 Bed Occupancy Rate (BOR)

The total number of sanctioned beds in Government healthcare facilities in the State was 1700, which works out to 28 beds per 10,000 (2011 Census).

The Bed Occupancy Rate is the average occupancy of hospital beds within a given year. It is an indicator of the productivity of the hospital services and is a measure of verifying whether the available infrastructure and processes are adequate for delivery of health services. As per IPHS, the BOR of hospitals should be at least 80 *per cent*. The BOR of the test-check DHs during 2014-19 is given below:



It is seen from above Chart that the productivity of Singtam DH in terms of BOR had increased consistently over the period 2014-19. This increase in case of Gyalshing DH, on the other hand, was slow and erratic (decreased in 2017-18) during the period

covered by audit. The productivity of both DHs was below the mark of 80 *per cent* prescribed by IPHS as optimum for a District Hospital. It indicates that the utilisation of beds at these hospitals is low.

## 7.2 Referral Out Rate (ROR)

As per IPHS norms, referral services to higher centres denote that the facilities for treatments were not available in the hospitals. The information for 2014-15 to 2015-16 was not available with the DHs. The ROR in the two sampled District Hospitals for the remaining period covered in audit is shown in table given below:

**Table 7.2: Referral Out Rate**

Year	Singtam DH	Gyalshing DH
2016-17	15.19	7.19
2017-18	15.14	8.22
2018-19	13.88	8.76
<b>Average</b>	<b>14.73</b>	<b>8.03</b>

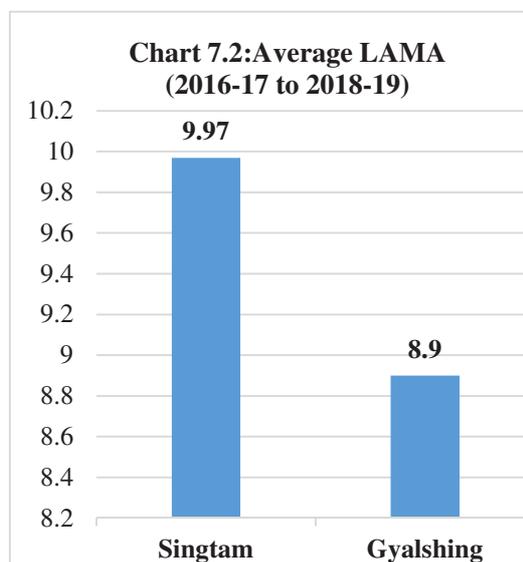
Source: Information from hospital

It can be seen from above that ROR was higher in DH Singtam as compared to Gyalshing DH indicating that health care facilities were not adequate in the Singtam DH. This has been brought out by audit also in preceding chapters.

## 7.3 LAMA and Absconding Rate in DHs

To measure service quality of a hospital, Leave Against Medical Advice (LAMA) Rate & Absconding Rates are evaluated. LAMA is a patient who leaves the hospital against the advice of the doctor and Absconding Rate refers to patients who leave the hospital without informing the hospital authorities. The information for 2014-15 to 2015-16 was not available with the DHs. The status of remaining period (2016-17 to 2018-19) is shown in **Chart -7.2**.

It is seen from the above that the LAMA rate of Singtam DH was higher as compared to Gyalshing DH which indicated deficiency in the services at the DH.



The Gyalshing DH informed that there was no case of absconding patients during 2016-17 to 2018-19. The Singtam DH reported that 17 patients (0.16 *per cent* of total IPD patients) had left the hospital during this period without intimating the hospital authorities.

## 7.4 Patient Satisfaction Survey

IPHS prescribes that a patient satisfaction survey is to be carried out by the health institutions to monitor the patients' satisfaction and feedback for improvement of quality of service. It was observed that no patient satisfaction survey was conducted by the sampled District Hospitals and New STNM Hospital during the period 2014-19. As a part of the audit exercise, a patient survey was conducted during the audit and 116 patients were interviewed (in two DHs and New STNM Hospital) by audit.

**Table 7.3: Number of Patients Surveyed**

Particulars	No. of Indoor patients surveyed	No. of OPD patients surveyed	Total
District Hospitals	44	22	66
New STNM Hospital	50	0	50
<b>Total</b>	<b>94</b>	<b>22</b>	<b>116</b>

Some of the key findings of the survey are given in the following paragraphs

### 7.4.1 Amenities in the Hospitals

Of the 116 patients interviewed, all (100 *per cent*) patients responded that basic amenities such as drinking water and wash room facilities were available in district and State hospital. During physical verification in the sample district hospitals audit found that drinking water and wash room facilities were available in both DHs and the New STNM.

### 7.4.2 Seating arrangements in the Hospital

In case of DHs, out of 66 patients interviewed, all (100 *per cent*) responded that adequate seating arrangement was available in the DHs. In case of New STNM Hospital only one (two *per cent*) patient stated that adequate seating arrangement was available in the hospital. During physical inspection, audit observed that the seating area and arrangement in Gyalshing DH was large and sufficient, seating arrangement in Singtam DH, though available, was congested. The seating arrangement in the New STNM Hospital was inadequate where patients had to stand while waiting for their turn.

### 7.4.3 Behaviour of staff at Reception

Sixty-two (94 *per cent*) patients in the two DHs and 38 (76 *per cent*) patients in the New STNM stated that the staff in the reception were courteous and helpful.

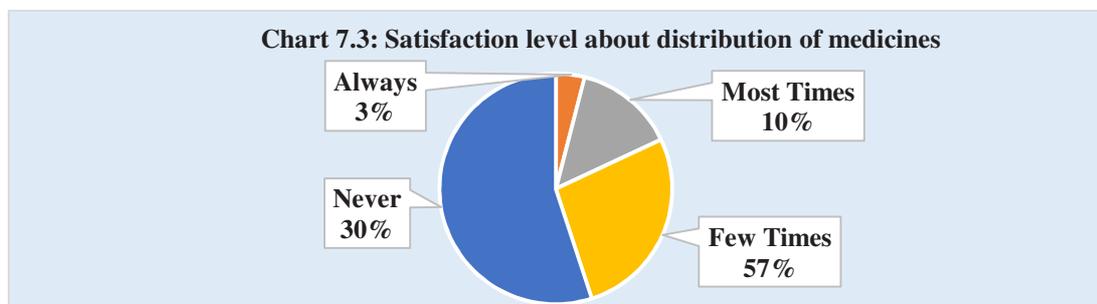
### 7.4.4 Signage in Hospitals

All 116 patients (100 *per cent*) interviewed stated that signages were available in the DHs and the New STNM Hospital for guidance of patients. Audit observed during physical inspection that signages were placed at appropriate places in the hospitals.

During patient survey, all the 116 (100 *per cent*) patients stated that OPD hours of doctors were displayed in the hospitals. Audit also observed that OPD hours of doctors were displayed in the hospitals.

#### 7.4.5 Availability of Medicines in Hospitals

Of the 116 patients interviewed, only four patients (3 per cent) said that all medicines prescribed by the doctors of the hospitals were provided from the pharmacies of the hospitals, 66 patients (57 per cent) said that prescribed medicines were provided from the pharmacies only on few occasions, while 35 patients (30 per cent) responded that prescribed medicines were never available in the hospital pharmacies.



#### 7.4.6 Stay arrangements for attendants of Patients

Out of 94 IPD patients interviewed, 100 per cent patients of New STNM Hospital stated that the arrangements were available for attendants of the IPD patients to stay in the hospital. Though 95 per cent patients of the DHs stated that there were no such arrangements in the DHs. During physical verification of sampled DHs, audit found that no arrangement was available at the DHs for stay of attendants of the patients. The patients' attendants were found sharing the same beds with the patients or using vacant beds nearby.

#### 7.4.7 Security in the Hospitals

Of the 94 IPD patients interviewed, all patients (100 per cent) told that in-patient areas/enclosures were secured and well-guarded. During physical verification audit found that inpatient areas/enclosures were well-guarded and secure.

#### 7.4.8 Experience of Patients in the Hospitals

Out of the 116 patients interviewed, 102 (88 per cent) patients rated the overall experience at the hospital as 'Good'.

### 7.5 Outcomes vis-à-vis Availability of Resources

Table 7.4 shows the relative performance of the test-checked hospitals on various outcome indicators worked out by audit and the corresponding availability of resources:

**Table 7.4: Outcomes vis-à-vis availability of resources in District Hospitals**

Hospital	Outcome Indicators				Availability of resources		
	BOR (%)	ROR per 1000	LAMA per 1000	Abs. Rate per 1000	Doctors (%)	Nurses (%)	Essential drugs (%)
Singtam DH	65	15	10	Nil	107	82	23
Gyalshing DH	44	8	9	0.16	80	80	28
<b>Benchmark<sup>1</sup></b>	<b>80-100%</b>	<b>43</b>	<b>26</b>	<b>9</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Records of test-checked DHs

<sup>1</sup> Benchmarks: BOR – as per IPHS, Weighted average for rest of the outcome indicators, 100 per cent (sanctioned strength) for availability of doctors, IPHS norms for nurses and for essential drugs, it was based on stock position (on the date of JPV) against 60 drugs common to both in the SEDL and drugs list of NHM Assessor's Guidebook.

As seen from the Table above, both DHs had low bed occupancy but the referral out rate was within the benchmark. However, availability of essential drugs in both DHs is a matter of concern.

### **Recommendations**

- *The Government needs to adopt an integrated approach, allocate resources in ways which are consistent with patient priorities and needs to improve the monitoring and functioning of the district hospitals towards facilitating a significant change in health outcomes.*
- *The monitoring mechanism should be revamped by including measurement of outcome indicators pertaining to productivity, efficiency, service quality and clinical care capability of the hospitals.*

**Gangtok**  
**The 11 February 2021**



**(SUSHIL KUMAR)**  
**Principal Accountant General (Audit),**  
**Sikkim**

*Countersigned*

**New Delhi**  
**The 23 February 2021**



**(GIRISH CHANDRA MURMU)**  
**Comptroller and Auditor General of India**

