CHAPTER III
HEALTHCARE SERVICES

Family Health Centres were not providing services as intended under Aardram Mission due to lack of infrastructure, required manpower, etc. and thus the aim to provide augmented services at reasonable cost, time and satisfaction had not been met. The number of doctors in the OP Departments of the hospitals was not commensurate with the number of patients seeking medical care creating overload for doctors as well as inconvenience to patients. The minimum essential services as prescribed by IPHS were not available in many of the hospitals. The entire gamut of desirable pathological services and equipment was not available in different categories of hospitals.

The IPHS envisage that each level of hospital should deliver the prescribed essential services (minimum assured services) and aspire to deliver specialised services to address the needs of patients. The standards also stipulate patient amenity requirements to be provided for efficient management of services.

Availability of all essential services is required for providing quality healthcare services to patients. As many of the services like emergency care, operation theatre, blood bank, etc., are interrelated, absence of one service would prevent optimal utilisation of other resources present in the hospital. Thus, it is essential that all hospitals are equipped with all essential services for emergency treatment of patients.

3.1. Out-Patient Department services

To avail out-patient services in the hospitals, patients first register at the hospital and approach the out-patient department (OPD) where the doctors concerned examine the patients and prescribe either diagnostic tests for evidence-based diagnosis or drugs as per the diagnosis done during the consultation process.

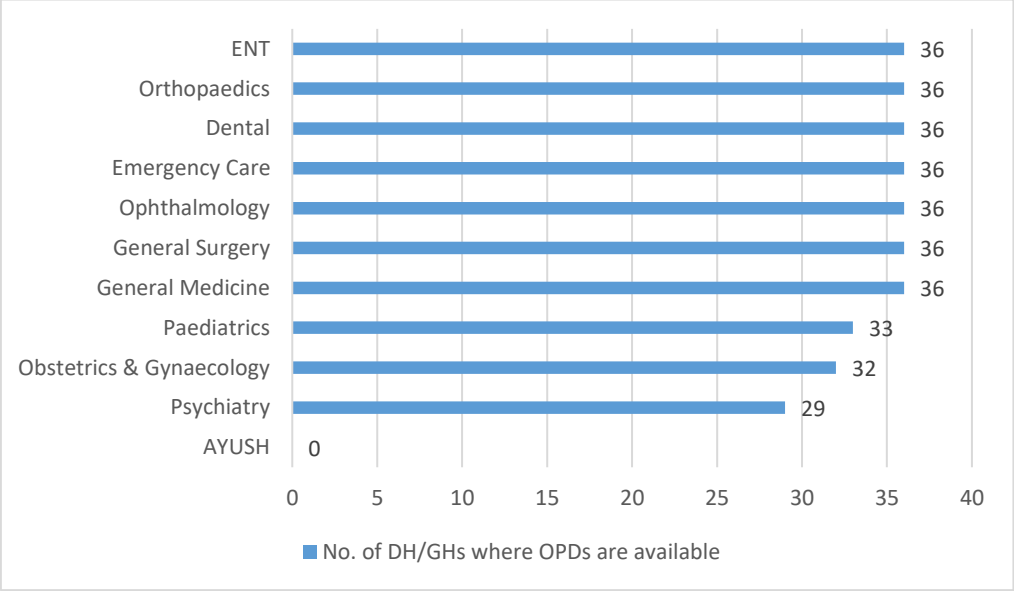
3.1.1. Availability of OPD services in hospitals

The availability of OPD services which are essential as per IPHS in the DH/ GHs, TH/ THQHs and the CHCs across the State are as follows:

3.1.1.1. District Hospitals/ General Hospitals

While seven out of the 11 essential OPD services were provided through the 36 DH/ GHs in the State, Paediatrics, Obstetrics and Gynaecology (O and G) and Psychiatry services were not provided in three, four and seven hospitals respectively. AYUSH services were not provided in any of the DH/ GHs in the State. The details are given in **Chart 3.1**.

Chart 3.1: Availability of OPD services in the 36 DH/ GHs in the State



(Source: Data furnished by the DHS (May 2023))

Availability of these essential services in the seven test-checked DH/ GHs is shown in **Table 3.1**.

Table 3.1: Availability of OPD services in DH/ GHs

Specialty services (OPD)	Alappuzha		Malappuram	Thiruvananthapuram		Wayanad	
	GH Alappuzha	DH Mavelikkara	DH Tirur	GH Neyyattinkara	DH Nedumangad	DH Mananthavady	GH Kalpetta
ENT	A	A	A	A	A	A	A
Orthopaedics	A	A	A	A	A	A	A
Dental	A	A	A	A	A	A	A
Emergency care	A	A	A	A	A	A	A
Ophthalmology	A	A	A	A	A	A	A
General Surgery	A	A	A	A	A	A	A
General Medicine	A	A	A	A	A	A	A
Paediatrics	A	A	A	A	A	A	A
O and G	NA	A	A	A	A	A	A
Psychiatry	A	A	A	NA	NA	A	A
AYUSH	NA	NA	NA	NA	NA	NA	NA

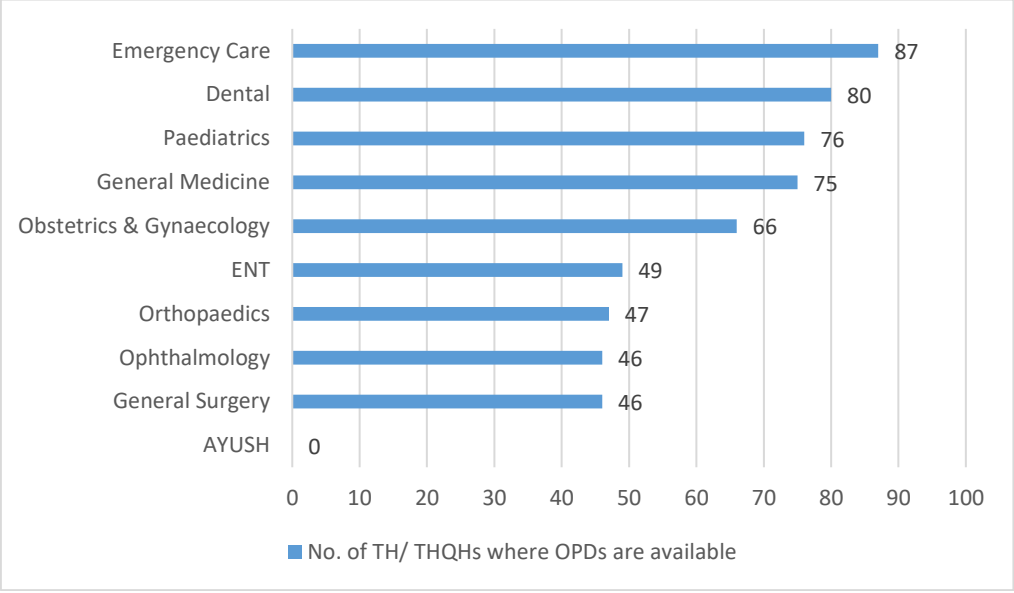
Colour code: Green colour/ A = Available; Pink colour/ NA = Not available
(Source: Information furnished by test-checked DH/ GHs (March 2022))

Psychiatry service was not provided in two major hospitals in Thiruvananthapuram district and O and G service was not available in GH Alappuzha.

3.1.1.2. Taluk Hospitals

As against the 10 essential OPD services, only Emergency care was available in all the 87 TH/ THQHs in the State. General Surgery, Ophthalmology, Orthopaedics and ENT services were available in less than 50 hospitals. AYUSH services were not provided in any of the TH/ THQHs in the State. The details are given in **Chart 3.2**.

Chart 3.2: Availability of OPD services in the 87 TH/ THQHs in the State



(Source: Data furnished by the DHS (May 2023))

Availability of these essential services in the seven test-checked TH/ THQHs is shown in **Table 3.2**.

Table 3.2: Availability of OPD services in TH/ THQHs

Specialty services (OPD)	Alappuzha		Wayanad	Thiruvananthapuram		Malappuram	
	TH Thuravoor	THQH Kayamkulam	THQH Vythiri	TH Fort	THQH Malayinkeezhu	THQH Thirurangadi	TH Wandoor
ENT	NA	A	NA	NA	NA	A	NA
Emergency care	A	A	A	A	A	A	A
General Medicine	A	A	A	A	A	A	A
Paediatrics	A	A	A	A	A	A	A
General Surgery	NA	A	A	A	NA	A	NA
Ophthalmology	A	A	NA	NA	NA	A	NA
Dental	A	A	A	A	A	A	A
O and G	A	A	A	A	NA	A	A
Orthopaedics	NA	A	NA	NA	NA	A	NA
AYUSH	NA	NA	NA	NA	NA	NA	NA

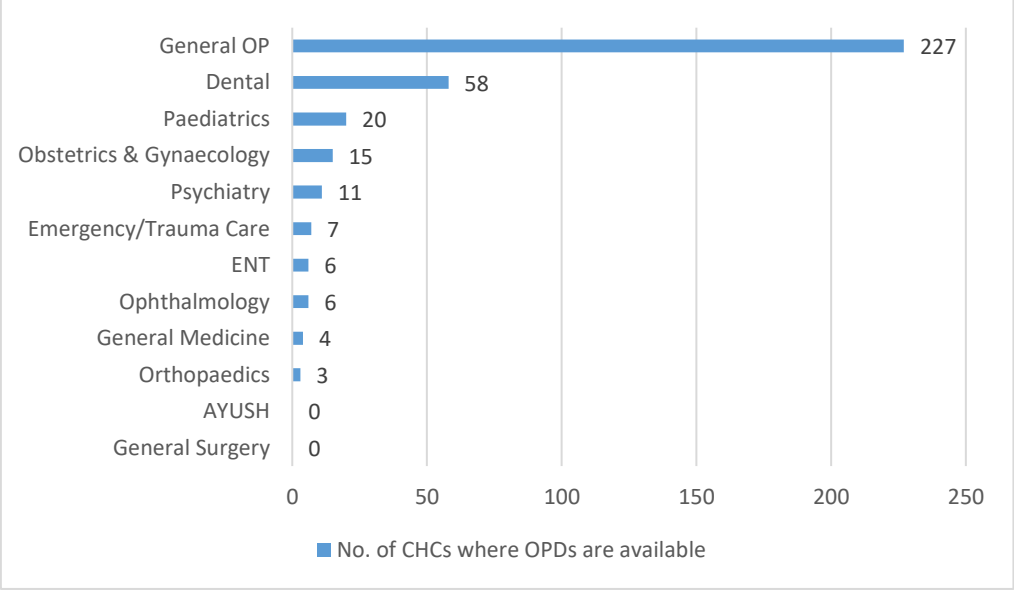
Colour code: Green colour/A = Available; Pink colour/NA = Not available
(Source: Information furnished by test-checked TH/ THQHs (March 2022))

OPD services under ENT and orthopaedic were not available in five out of seven test-checked TH/ THQHs and ophthalmology was provided only in three TH/ THQHs.

3.1.1.3. Community Health Centres

The IPHS requires that all the above seven OPD services are to be provided through CHCs. OPD services on AYUSH and General Surgery were not provided in any of the CHCs in the State and the remaining essential OPD services were provided only in a few hospitals as shown in the Chart. Instead, the CHCs provided services mainly through General OP. The details are given in **Chart 3.3**.

Chart 3.3: Availability of OPD services in the 227 CHCs in the State



(Source: Data furnished by the DHS (May 2023))

Availability of these essential services in the seven test-checked CHCs is shown in **Table 3.3**.

Table 3.3: Availability of OPD services in test-checked CHCs

Specialty Services (OPD)	Alappuzha		Wayanad	Thiruvananthapuram		Malappuram	
	Muhamma	Chunakkara	Nalloornad	Anchuthengu	Manamboor	Tanur	Edappal
General Medicine	NA	NA	NA	NA	NA	NA	NA
General Surgery	NA	NA	NA	NA	NA	NA	NA
Obstetrics and Gynaecology	NA	NA	NA	NA	NA	NA	NA
Paediatrics	NA	NA	A	NA	NA	NA	NA
Emergency care	NA	NA	NA	NA	NA	NA	NA
Dental	NA	NA	A	NA	NA	A	NA
AYUSH	NA	NA	NA	NA	NA	NA	NA

Colour code: Green colour/ A = Available; Pink colour/ NA = Not available
(Source: Information furnished by test-checked CHCs (March 2022))

None of the seven test-checked CHCs provided the essential OPD services except Dental and Paediatric services in Nalloornad and Dental services in Tanur.

3.1.2. Availability of OPD services in PHCs

3.1.2.1. Aardram Mission – Setting up of Family Health Centres

Government of Kerala launched (2017) Aardram Mission to make Government hospitals people friendly by improving their basic infrastructure and capacity and to provide services with a view to extend treatment at reasonable cost, time and satisfaction. Transforming Primary Health Centres (PHCs) into Family Health Centres (FHCs) by redefining the package of services offered and improving their quality was one of the prime strategies of the Mission. Service delivery of these institutions in terms of clinical care and public health activities was to be augmented and outpatient care was to be provided in two shifts upto 6 PM along with laboratory and pharmacy services. The Healthcare Policy document of GoK also emphasised the aim of the Government to convert all PHCs to FHCs. A total of 886 PHC/ CHCs[12] were selected for conversion as FHCs in three phases[13]; for which funds worth ₹139.15 crore including GoI share of ₹80.60 crore were released.

Audit examined the availability of facilities in the test-checked 32 FHCs[14] **(Appendix 3.1)** and the observations are as detailed below:

- Aardram scheme envisaged three medical officers, four nurses and one lab technician in each FHC for the smooth functioning. The stipulated staff strength was not available in all the above cadres in the test-checked FHCs as detailed in Chapter II of this Report.
- As per the guidelines issued by GoK (August 2017), outpatient care was to be available at FHCs seven days a week ie. from 9 am to 6 pm from Monday to Saturday in two shifts and from 9 am to 1.30 pm, on Sundays. Audit noticed that 10 FHCs worked only in one shift and 13 out of 32 FHCs did not provide service on Sundays due to shortage of staff/ lack of infrastructure.
- FHCs were to provide essential laboratory services on all six working days. However, it was noticed that eight out of 32 FHCs did not provide laboratory services due to non-setting up of lab/ absence of lab technician.

Of the 886 institutions, only 543 commenced functioning as FHCs as per information furnished by the Department (March 2022). Works relating to conversion of three out of 170 and 96 out of 504 institutions selected in first and second phases respectively did not commence due to want of land and infrastructure. Of the 212 institutions selected in third phase, 17 became functional. DHS stated (March 2022) that the works in respect of the remaining ones would be carried out in a phased manner and no stipulated time frame was prescribed for the completion of work in each phase (March 2022).

---

[12] 844 PHCs; 42 CHCs
[13] Phase I - 170 (2017-18); Phase II - 504 (2018-19) and Phase III - 212 (2020-21)
[14] The FHCs include nine PHCs under upgradation as FHCs during the course of Audit

Thus, it could be seen that FHCs were not providing services as intended under Aardram Mission due to lack of infrastructure, required manpower, etc. and thus the aim to provide augmented services at reasonable cost, time and satisfaction had not been met.

3.1.3. Non-availability of AYUSH services in CHCs and PHCs

National AYUSH Mission (NAM) was formed in States by GoI during 12th Five Year Plan period. One of the objectives of the formation of NAM in States was to establish co-location of AYUSH facilities at every health centre and hospital.

Audit observed that AYUSH facilities were not co-located in any health centres/ hospitals in the State (March 2022). GoK replied (October 2023) that Kerala had a good network of AYUSH systems especially Ayurveda and Homoeopathy. Institutions under both streams were available in every local body under State Government or NHM. However, District Medical Officers under Department of ISM were directed to report the scope of including the institutions functioning in rented buildings in the premises of allopathy hospitals.

Co-locating AYUSH facilities at health centres and hospitals would have provided patients with more options regarding the system of treatment.

3.1.4. Average OPD cases per doctor per day against available OPD services

OPD cases per doctor is an indicator for measuring efficiency of OPD services in a hospital.

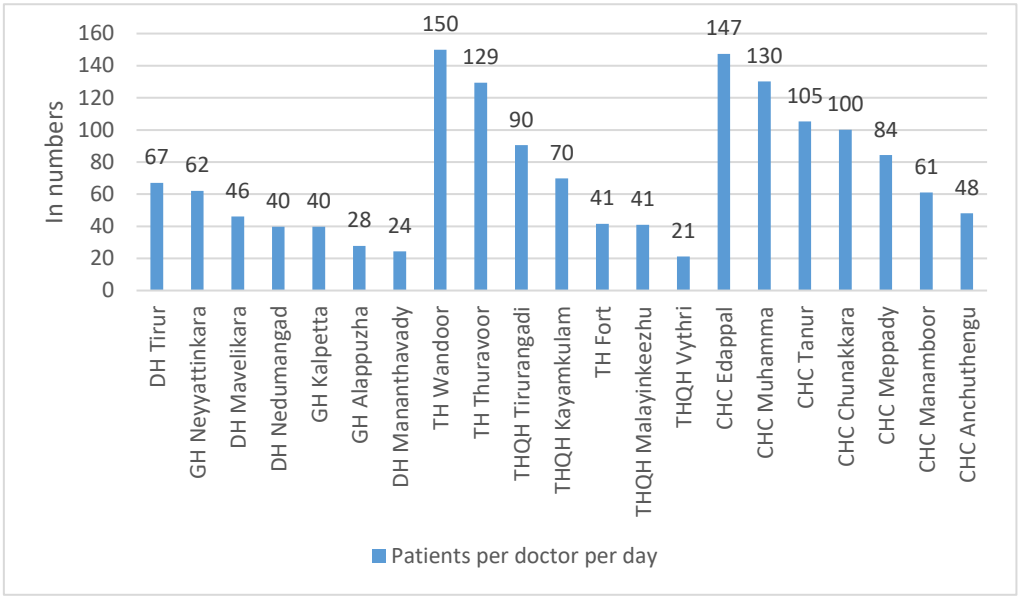
Audit observed that the average patient load per day per doctor was 55 patients[15] in 62 test-checked hospitals[16]. However, in seven hospitals[17], the average was above 100 patients per day per doctor of which, the daily average was 208 patients in PHC, Pallikkal in Malappuram district. Incidentally, Audit noticed that there was a shortage of 34 PHCs in the district. The average OPD cases per doctor per day in the test-checked DH/GH/TH/THQH/CHCs revealed over burdening of doctors in some hospitals as shown in **Chart 3.4**.

[15] Based on patient strength for the month February 2020 (taken as a sample month)

[16] Data on number of doctors in OPD was not furnished by MCH Alappuzha, MCH Thiruvananthapuram, SAT, Thiruvananthapuram, GH Neyyattinkara and Government Mental Health Centre, Thiruvananthapuram

[17] PHC Pallikkal, TH Wandoor, CHC Edappal, CHC Muhamma, TH Thuravoor, CHC Tanur, CHC Chunakkara

Chart 3.4: Average OPD cases per doctor per day in test-checked DH/GH/TH/THQH/CHCs



(Source: Information furnished (February 2023) by DHS)

This fact was further confirmed from the doctors' survey[18], where 85 out of 185 doctors surveyed stated that number of patients attended by them was in the range of 100 to 400/day.

Over burdening of health professionals would have a negative impact on the quality of healthcare services provided.

3.1.5. Availability of registration counter and average daily patient load per counter

Registration counter is the first point of contact with the hospital for a patient and is an important component of the hospital experience for patients and their attendants. The average daily patient load as well as load on a registration counter in the test-checked hospitals are as shown in **Appendix 3.2**. The daily patient load was above 750 in test-checked TH/ THQH/ DH/ GHs except in THQHs at Vythiri and Malayinkeezhu. Increased patient load in these hospitals could be attributable to the shortage of CHCs as detailed in paragraph 5.1 of the Report.

NHM Assessor's guidebook (Volume-l) estimates the average time required for registration to be three to five minutes per patient and so number of counters required would be worked on scale of 12 to 20 patient/ hour per counter. Considering the average OP registration time to be five hours per day[19] in the hospitals, the patient load would be 100 patients per counter per day assuming that the minimum time of three minutes is spent on each patient. Audit verified[20]

[18] Audit conducted (April 2022) a survey of 185 doctors in 67 test-checked hospitals.
[19] The normal OP registration timing in hospitals is between 8AM and 1PM (five hours).
[20] February 2020 was taken as the sample month

the patient load per counter through joint inspection/ patient survey/ scrutiny of records and observed the following:

- The average daily patient load on an OP registration counter was more than 100 patients in 44 out of 67 test-checked hospitals.
- The load per counter was over 500 patients in 13 test-checked hospitals of which four hospitals[21] had a patient load per counter of over 1,000.
- Further, in the 44 test-checked CHC/ FHC/ PHC/ UPHCs, the average daily patient load on a registration counter varied from 20 to 632 patients.
- 28 *per cent* of the outpatients who participated in the beneficiary survey opined that registration counters were not adequate.

Audit noticed long queues/ crowding at registration counters pointing to deficiencies in the patient management system of hospitals.

Figure 3.1: Long queue/ crowd at OP registration counters

During the Exit Conference, ACS stated (August 2022) that the issue could be resolved by introduction of online registration facility. E-health application when rolled out fully was expected to help significantly in the resolution of such issues.

3.1.6. Availability of basic patient amenities

Audit observed shortcomings in provisioning of basic patient amenities[22] such as seating facility, toilets, drinking water, ramp etc., as detailed in **Table 3.4.**

[21] DH Mananthavady (1,608), THQH Kayamkulam (1,188), GH Kalpetta (1,072) and TH Thuravoor (1,035)

[22] IPHS and Kerala Accreditation Standards for Hospitals (AYUSH)

Table 3.4: Non-availability of seating arrangement, toilet facility etc.

Facilities	Remarks
Suitable seating facility	In DH Nedumangad and THQH Kayamkulam, seating facility was not provided in OP counter (average daily patient load – 1,113 and 1,188 respectively) In six hospitals - THQH Malayinkeezhu, GH Kalpetta, DH Mananthavady, W and C Hospital, Ponnani, TH Fort and in TH Wandoor, the seating facility in the OP counter was inadequate compared to the daily patient load. 23 *per cent* of the OP patients surveyed opined that seating facility was not adequate near the registration counter.
Toilets	Toilet facility was not provided near the OP counter in five hospitals - MCH Alappuzha, TH Fort, TH Thuravoor, CHC Muhamma and THQH Kayamkulam
Separate toilets for male and female	Separate toilets for male and female were not provided in 16 out of 67 test-checked hospitals (24 *per cent*).
Toilet for differently abled	In 46 (69 *per cent*) out of the 67 hospitals test-checked, separate toilets were not provided for the differently abled. In 13 (72 *per cent*) out of the 18 AYUSH hospitals test-checked, separate toilet was not provided for the differently abled.
Drinking water	Drinking water facility in OP counter was not provided in seven hospitals – TH Fort, PHC Thennala, DH Nedumangad, THQH Tirurangadi, Dental College, Thiruvananthapuram, THQH Vythiri and CHC Muhamma.
Ramp and hand railing	Ramps were not provided in 16 hospitals and handrailing facility was not available in 31 hospitals. Ramps were not provided in 12 out of 18 AYUSH hospitals test-checked.
Display of directional and layout signage	Proper signage system is needed in each hospital so that patients and their attendants can move around in the hospital premises from one section to another in a trouble-free manner. Directional and layout signage was not displayed near the OP counter in 24 out of the 67 test-checked hospitals. Signages were displayed in bilingual form in 32 hospitals and directional layouts were in pictorial form in 26 hospitals. Directional and layout signage was not displayed in seven out of the 18 AYUSH hospitals.

(Source: Joint physical verification)

Figure 3.2: Long queue/ crowd in OP consultation area due to lack of seating facility - DH Mananthavady (29 November 2022)

DHS stated (November 2022) that lack of sufficient space and manpower were the major constraints which restricted the hospitals from providing the requisite basic amenities to patients. GoK replied (October 2023) that all the institutions under the Department of ISM were being upgraded to NABH (National Accreditation Board for Hospitals and Healthcare Providers) level step by step and on upgradation, all infrastructure would be facilitated to the institutions.

3.2. In-patient Department

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. In-patients require a higher level of care through nursing services, availability of drugs/ diagnostic facilities, observation by doctors, etc.

The IPHS prescribes the minimum essential services to be provided in each level of hospital. The availability of the prescribed essential IPD services in the hospitals across the State is given in **Table 3.5**.

Table 3.5: Availability of IPD services in hospitals

Services	No. of hospitals where IPDs are available		
	DH/ GH (36)	TH/ THQH (87)	CHC (227)
General Medicine	36	71	4
Paediatrics	32	71	10
General Surgery	36	45	1
Emergency care	36	25	1
Dental	25	29	3
O and G	32	58	4
AYUSH	Nil	Nil	Nil
Orthopaedics	36	48	
ENT	35	46	
Ophthalmology	36	37	
Psychiatry	24		

Shaded cells show services not covered under essential category in IPHS
(Source: Information furnished (May 2023) by DHS)

From the table, it can be seen that all the prescribed IPD services were not provided through all the hospitals. The availability of IPD services was better in DHs/ GHs but was grossly inadequate in CHCs.

The availability of eight essential services in test-checked DHs and six in THs as on the date of visit (in various spells from November 2021 to April 2022) are detailed in **Appendix 3.3**.

- Out of the test-checked DH/GHs, all the services were available only in DH Mananthavady.
- Of the eight essential services, only General Medicine, General Surgery, Paediatrics and Orthopaedics were available in all test-checked DH/ GHs.
- Trauma care facilities to provide immediate care to the injured and accident cases were not available in five DH/GHs.

- In THQH Malayinkeezhu, four out of the six essential services were not provided. It was replied that the infrastructure facilities were not available in the hospital and the posts were not created.
- In the test-checked TH/ THQHs, all the six services were provided only in THQHs Kayamkulam and Tirurangadi. The IP services for Orthopaedics were available only in three hospitals and General Surgery only in four hospitals.

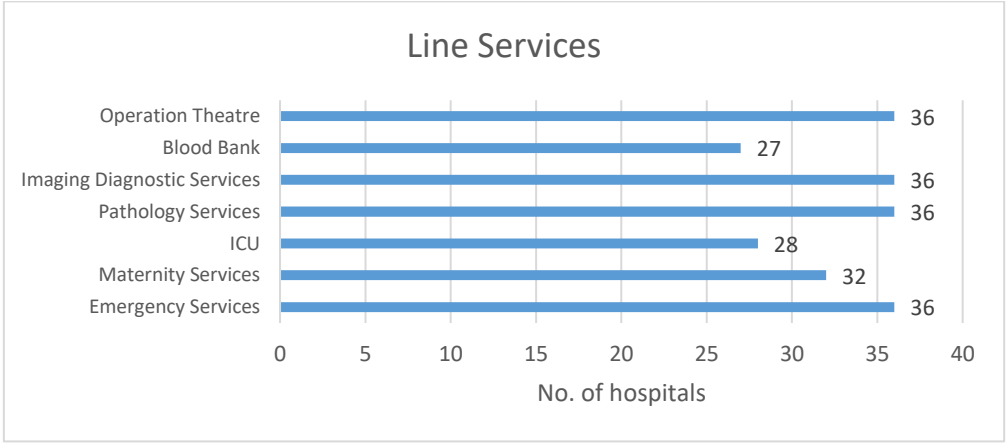
Further, it was observed that none of the seven essential IP services[23] to be provided by a CHC as per IPHS were available in the seven CHCs test-checked. IPD wards and beds were provided in the hospitals for General IP services.

The Comptroller and Auditor General of India, in the Audit Report (General and Social Sector) for the year ended 31 March 2013 had included a Performance Audit on Healthcare Services in Government Hospitals and had made recommendations to the GoK for setting up Trauma Care Centres in all hospitals in the State. The PAC (2016-19) in its 18th Report had expressed its astonishment that the Trauma Care Units were not available in all hospitals even though the number of persons seeking admission in the hospitals is increasing day by day and therefore directed to furnish report on the action plan for providing such facilities in all the DHs, THs and GHs. However, Audit noted that the trauma care units are yet to become functional in some hospitals as discussed above.

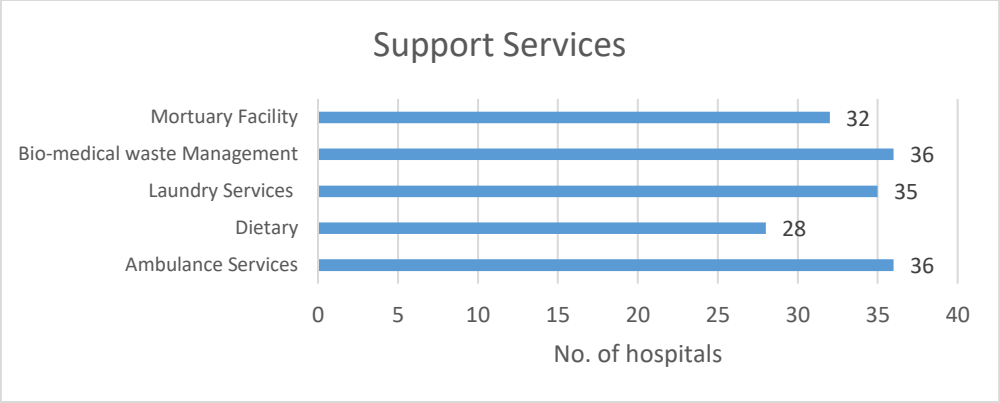
3.3. Availability of Line and Support services in DHs

District hospital is an essential component of the district health system and functions as a secondary level of healthcare which provides curative, preventive and promotive healthcare services to the people in the district. Audit examined the availability of line and support services as per norms in district level hospitals as shown in **Chart 3.5**.

Chart 3.5: Availability of Line and Support services in 36 GH/ DHs in Kerala



[23] General Medicine, General Surgery, O & G, Paediatrics, Emergency, Dental and AYUSH



(Source: Information furnished by DHS (February 2023))

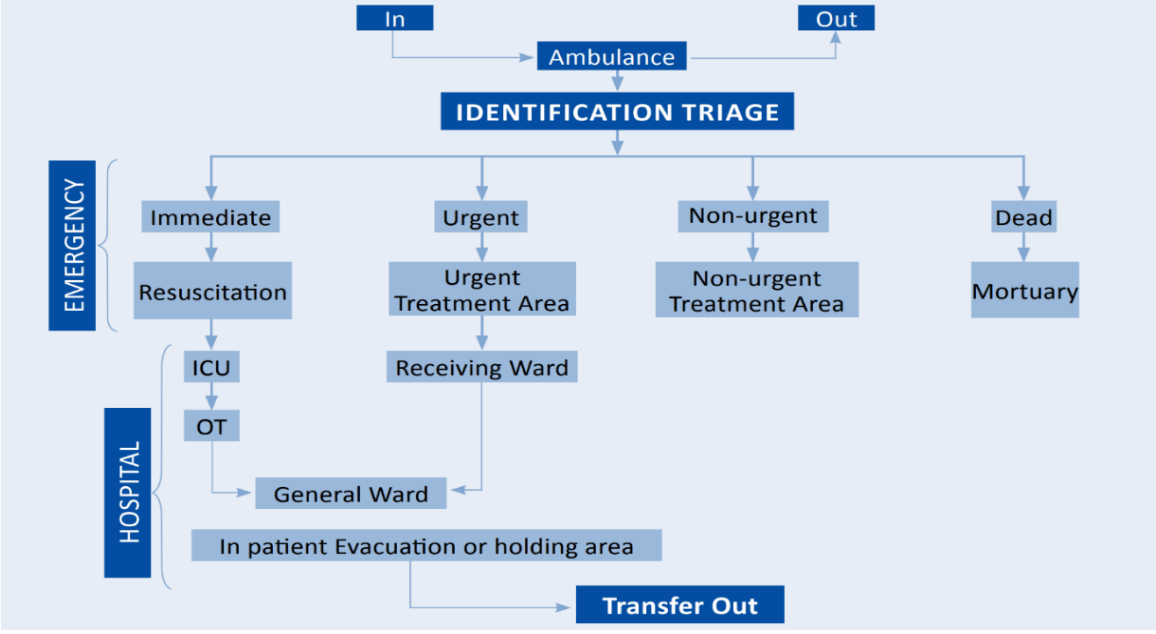
Only four out of the seven line services and two out of the five support services were available in all DH/ GHs.

Audit examined the availability of line and support services in the 14 test-checked TH/ THQH/ DH/ GHs as detailed in the following paragraphs:

3.4. Emergency services

As per IPHS for DHs and THs, 24x7 operational emergency care with dedicated emergency room shall be available with adequate manpower. Emergency services should have separate X-ray and basic laboratory facilities, mobile X-ray, plaster room, minor OT facilities, etc.

Chart 3.6: Flowchart of Emergency Department



3.4.1. Availability of emergency services

In the 14 test-checked DHs/ GHs/ TH/ THQHs, Audit noticed that emergency OT was available in three hospitals[24], Trauma ward was available only in DH Nedumangad, Mobile X-Ray units and separate side laboratory for emergency care were not provided in 10[25] and 11[26] hospitals respectively and plaster room was not available in eight[27] hospitals as detailed in **Table 3.6**.

Table 3.6: Availability of emergency services in test-checked hospitals

Name of emergency service	DH Mavelikkara	DH Tirur*	DH Nedumangad	DH Mananthavady	GH Alappuzha	GH Neyyattinkara	GH Kalpetta	TH Thuravoor	TH Wandoor	TH Fort	THQH Kayamkulam	THQH Tirurangadi	THQH Malayinkeezhu	THQH Vythiri
Emergency OT	No	No	No	Yes	No	No	No	No	No	Yes	Yes	No	No	No
Emergency ward	Yes	No	Yes	Yes	No	Yes	No	Yes	No	No	Yes	No	No	No
Trauma ward	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Triage procedure	Yes	No	No	Yes	Yes	Yes	No	No	No	No	No	No	Yes	Yes
Emergency laboratory	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No	Yes	No	No	No
Separate provision for examination of rape/ sexual assault victim	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No
Disaster management plan in emergency ward	Yes	No	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No
Treatment of assault/ Bowel/Head/ Stab injuries	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Blood bank in close proximity to emergency	Yes	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No
Mobile X-ray for Emergency room	Yes	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	No
Laboratory, Side lab for Emergency services	Yes	Yes	No	No	Yes	No	No	No	No	No	No	No	No	No
Plaster room for Emergency services	Yes	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No

* Casualty services available

Colour code: Green/Yes -available, Red/No- Not available

(Source: Data obtained from test-checked hospitals)

[24] DH Mananthavady, TH Fort and THQH Kayamkulam

[25] DH Nedumangad, GH Alappuzha, GH Kalpetta, TH Fort, THQH Kayamkulam, THQH Tirurangadi, TH Wandoor, THQH Malayinkeezhu, THQH Vythiri, TH Thuravoor

[26] DH Nedumangad, GH Neyyattinkara, GH Kalpetta, TH Wandoor, DH Mananthavady, TH Thuravoor, THQH Malayinkeezhu THQH Kayamkulam, TH Fort, THQH Tirurangadi, THQH Vythiri

[27] TH Wandoor, DH Tirur, THQH Tirurangadi, THQH Vythiri, GH Kalpetta, TH Thuravoor, THQH Malayinkeezhu, GH Neyyattinkara

3.4.2. Availability of routine and emergency care in CHCs

Audit examined the availability of routine and emergency care services prescribed as essential for CHCs under IPHS. Audit observed that facilities for handling Dengue Haemorrhagic Fever, Cerebral Malaria, Snake bite cases, Poisonings, Meningoencephalitis and Obstetric Care were not available in any of the test-checked CHCs.

Table 3.7: Availability of routine and emergency cases in medicine in CHCs

Name of Routine and Emergency care service	Availability in seven test-checked CHCs
Dengue Haemorrhagic Fever	0
Cerebral Malaria	0
Dog bite cases	5
Snake bite cases	0
Poisonings	0
Congestive Heart Failure	1
Left Ventricular Failure	1
Pneumonia	5
Meningoencephalitis	0
Acute respiratory conditions	6
Status Epilepticus	1
Burns	5
Shock	3
Acute dehydration	7
Obstetric Care including surgical interventions like Caesarean Sections and other medical interventions	0

Scales determined by Audit	Good (6-7)	Moderate (4-5)	Poor (0-3)

(Source: Data obtained from test-checked CHCs)

3.4.3. Management of Emergency cases in PHC/ FHCs

The IPHS stipulate that every PHC should essentially provide 24 hours emergency services including normal delivery services and referral services. Audit examined the availability of emergency services in test-checked PHC/ FHCs as shown in **Table 3.8**.

Table 3.8: Availability of Emergency Services in PHC/ FHCs

Name of District	Number of test-checked PHCs/ FHCs	24 hours emergency services	24x7 Emergency referral and normal delivery services
Thiruvananthapuram	9	1	0
Alappuzha	8	1	0
Malappuram	11	0	0
Wayanad	4	0	0

(Source: Data obtained from DHS)

Audit observed that 24 hours emergency services were not available in 30 out of 32 PHC/ FHCs. Further, 24x7 referral service and normal delivery services were not available in any of the test-checked PHC/ FHCs.

3.5. Emergency response and health system preparedness package

3.5.1. Fund utilisation under COVID-19 in the State

GoI released funds under "COVID package"[28] as grants-in-aid during 2019-20 to 2021-22 to build resilient health systems to support preparedness and prevention related functions that would address not only the COVID-19 outbreak but also such outbreaks in future.

While the funds released in 2019-20 and 2021-22 were to be shared by GoI and GoK in 60:40 basis, the release for 2020-21 was 100 *per cent* central share. The funds were released to NHM. Further, NHM received GoI funds for COVID vaccination, State Disaster Response Funds (SDRF) for relief and response activities, etc. GoK released funds to KMSCL for effecting the procurements of drugs and equipment and for containment and mitigation activities entrusted with the Corporation in connection with COVID. The details of major allocation and expenditure incurred thereagainst (as on 31 March 2022) are furnished in **Table 3.9** below.

Table 3.9: Utilisation of funds under COVID-19

(₹ in crore)

Year	Package	Release of funds to NHM		Total receipt	Expenditure	Release of funds to KMSCL by GoK/ NHM	
		GoI	GoK			Receipt at KMSCL	Expenditure
2019-20	Emergency COVID Response Preparedness Package (ECRP)-Phase I	74.21	49.47	123.68	123.68	-	-
2020-21	ECRP Phase I	573.96	-	573.96	573.96	727.99[29]	730.98
	Uncommitted NHM funds	-	-	176.03	174.96		
	COVID vaccination	9.08	-	9.08	5.81		
	SDRF	-	50.69	50.69	50.69		
2021-22	ECRP Phase I	48.82[30]	-	48.82	-	478.68[31]	478.68
	ECRP Phase II	173.89	57.96[32]	231.85	128.40		
	SDRF	-	20.00	20.00	19.19		
Total		**879.96**	**178.12**	**1234.11**	**1076.69**	**1206.67**	**1209.66**

(Source: Details furnished by NHM and KMSCL)

Category-wise expenditure (as per NHM) under COVID-19 as of March 2022 is given in **Table 3.10**.

[28] COVID-19 Emergency response and health system preparedness package

[29] SDMA - ₹7.19 crore; State budget - ₹393.46 crore; State contingency funds - ₹75 crore; NHM - ₹252.34 crore

[30] Received at NHM on 28.03.2022 as 100 *per cent* CSS

[31] GoK fund

[32] Against a State share of ₹115.93 crore (60:40 share), the release was only ₹57.96 crore to NHM (2021-22), the balance pending to be released by the State was ₹57.97 crore.

Table 3.10: Category-wise expenditure incurred under ECRP on COVID-19

(₹ in crore)

Sl. No.	Activity head	Expenditure*
1	Diagnostics including sample transport	85.00
2	Drugs and supplies including PPE and masks	195.62
3	Equipment/ facilities for patient care including support for ventilators etc.	116.95
4	Temporary HR including incentives for Community Health volunteers	363.22
5	Mobility Support	25.23
6	IT systems including hardware and software etc.	3.78
7	Information, Education and Communication/ Behavioural Change Communication	17.21
8	Training	0.58
9	Miscellaneous (which could not be accounted under above items of expenditure)	65.00
10	COVID essential diagnostics and drugs (ECRP II)	15.32
11	Ramping up Health infrastructure with focus on paediatric units (ECRP II)	54.27
12	Enhancement of human resource for health (ECRP II)	56.36
13	IT interventions - HMIS and telecommunications (ECRP II)	2.27
14	Capacity building and training (ECRP II)	0.18
	Total	**1000.99**

* Does not include expenditure under COVID vaccination and SDRF

(Source: Data obtained from NHM)

3.6. Operation Theatre services

Operation Theatre (OT) is an essential service that is to be provided to the patients from the level of THs. Audit observed that the services were available at all the seven test-checked GHs/ DHs and the services were not available in three[33] out of the seven test-checked TH/ THQHs during the audit period.

Quality of surgical treatment may have been adversely impacted in these test-checked hospitals in view of the deficiencies pointed out in the following paragraphs:

3.6.1. Availability of prescribed types of OTs

IPHS prescribes that OTs have to be maintained in DHs and THs. **Table 3.11** shows the accessibility and upkeep of OT services in the test-checked hospitals.

[33] THQH Malayinkeezhu, TH Thuravoor, TH Wandoor

Table 3.11: Accessibility and upkeep of OT services in test-checked DH/ GH/ THs/ THQHs

Description	DH Mavelikkara	DH Tirur	DH Nedumangad	DH Mananthavady	GH Alappuzha	GH Neyyattinkara	GH Kalpetta	TH Thuravoor	TH Wandoor	TH Fort	THQH Kayamkulam	THQH Tirurangadi	THQH Malayinkeezhu	THQH Vythiri
Whether OT has convenient relationship with surgical ward, intensive care unit, radiology, pathology, blood bank and CSSD.	Yes	Yes	No	Yes	Yes	No	No	No Operation theatre	No Operation theatre	No	Yes	No	No Operation theatre	No
Whether access to facility is provided without any physical barrier and friendly to people with disabilities.	Yes	Yes	No	No	Yes	Yes	No			Yes	Yes	No		No
Whether OT has piped suction and medical gases, electric supply, heating, air-conditioning, ventilation.	Yes	Yes	No	Yes	Yes	No	Yes			Yes	No	Yes		Yes
Whether patient's records and clinical information is maintained.	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes		Yes
Whether a defined and established grievance redressal system was in place.	Yes	Yes	No	Yes	Yes	Yes	Yes			Yes	Yes	Yes		No
Whether all equipment are covered under AMC including preventive maintenance.	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes		Yes
Whether the facility has established procedure for internal and external calibration of measuring equipment	Yes	Yes	Yes	Yes	No	Yes	Yes			Yes	Yes	Yes		Yes

Colour code: Green/Yes - available, Red/No - Not available
(Source: Data obtained from test-checked hospitals)

It could be seen from the above table that OTs were not available in three out of 14 test-checked DHs/GHs/TH/THQHs. In six hospitals, OTs were not conveniently placed with surgical ward, intensive care unit, radiology, pathology, blood bank etc.

3.6.2. Availability of Surgical procedures

The care for routine and emergency cases in Surgery to be provided from the level of CHCs as per IPHS was examined in the test-checked hospitals and the availability is as shown in **Table 3.12** below.

Table 3.12: Availability of Surgical procedures in test-checked health institutions

Name of procedure	Availability in test-checked hospitals		
	DH/ GHs (7)	TH/ THQHs (7)	CHCs (7)
Hernia	7	4	0
Hydrocele	7	4	0
Appendicitis	7	4	0
Haemorrhoids	7	4	0
Fistula	7	4	0
Intestinal Obstruction	3	0	0
Haemorrhage	4	1	0
Nasal packing	7	3	0
Tracheostomy	3	1	0
Foreign body removal	7	3	0
Fracture reduction	7	3	0
Facility for putting splints/ plaster cast	7	4	0

Scales determined by Audit	Good (6-7)	Moderate (4-5)	Poor (0-3)

(Source: Information furnished (May 2023) by test-checked hospitals)

It can be seen that:

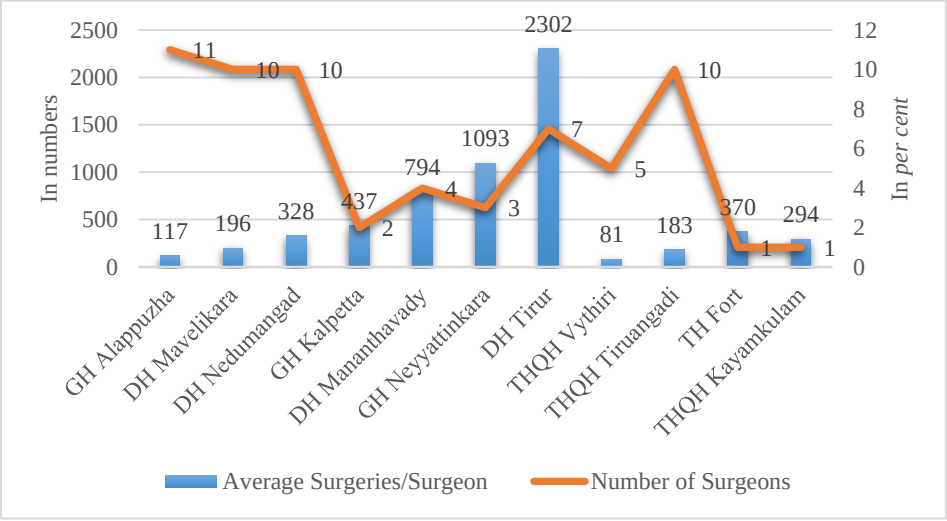
- None of the above mentioned surgical procedures were available in the test-checked CHCs and in three[34] out of seven TH/ THQHs.
- The procedure for handling the intestinal obstruction was not available in any of the test-checked TH/ THQHs and the management of Haemorrhage and Tracheostomy was done only in THQH Tirurangadi.
- In the test-checked DHs/ GHs all the above procedures were not available in DH Mavelikkara, GH Kalpetta, GH Alappuzha and GH Neyyattinkara.

3.6.3. Surgery load per Surgeon

Audit assessed the surgery load per surgeon in the test-checked hospitals during the audit period. The details are shown in **Chart 3.7**.

[34] THQH Malayinkeezhu, TH Thuravoor and TH Wandoor

Chart 3.7: Average number of surgeries done per surgeon per year



(Source: Information furnished (May 2023) by test-checked hospitals)

The surgery load per surgeon ranged from 81 in THQH Vythiri to 2,302 in DH Tirur. The huge variation in surgical load in test-checked hospitals depicts the need to perform a proper assessment of the work load and proper distribution of available surgeons for the efficient management of services.

3.7. Intensive Care Unit services

Intensive Care Unit (ICU) is essential for managing critically ill patients requiring highly skilled life-saving medical aid and nursing care. Intensive care service is a minimum assured service as per the IPHS for DHs.

Audit observed that out of the seven test-checked DHs/ GHs, ICU services were not available in GH Neyyattinkara. Thus, in the absence of ICU facility in the hospital, patients approaching the hospital despite being in an emergency condition, were referred/passed on to higher facility public[35]/private hospitals.

As per IPHS, the number of ICU beds should not be less than four and was desirable to be five to ten *per cent* of the available number of beds in DH. Out of the six DHs/ GHs where the ICU facility was available, Audit observed that the required percentage of beds to be maintained for ICU was available only in DH Tirur (9.1 *per cent*). In the remaining five hospitals, the ICU bed availability ranged from two to four *per cent*.

As per IPHS for DHs, each ICU bed is required to be equipped with High end monitor, ventilator, O_2 therapy devices, deep vein thrombosis prevention devices, infusion pumps and pipeline of O_2, suction and compressed air. Audit checked the availability of essential equipment in the ICUs in test-checked hospitals as detailed in **Table 3.13**.

[35] Nearest higher level Government hospital (Medical College) is 25 km away from GH Neyyattinkara.

Table 3.13: Availability of equipment in ICU

Equipment	GH Alappuzha	DH Tirur	DH Nedumangad	DH Mananthavady	GH Kalpetta	DH Mavelikkara
No. of ICU Beds	8	15	6	9	6	15
High end monitor	8	9	3	9	6	15
Ventilator	3	8	2	7	6	8
O_2 therapy devices	8	10	6	9	3	15
Deep vein thrombosis prevention devices	0	0	0	0	0	1
Infusion pumps	8	1	0	4	6	13
Pipeline of O_2, suction and compressed air	8	14	0	9	6	15

(Source: Stock records of the test-checked hospitals)

It is seen from the above table that deep vein thrombosis prevention devices were not available in five of the six test-checked hospitals. In DH Nedumangad, infusion pumps, pipeline of O_2, suction and compressed air were not available for any of the ICU beds.

As per IPHS for DHs, the common facilities like ultrasound for invasive procedures, defibrillator and Arterial Blood Gas (ABG) analysis machine are required in ICUs. Audit observed that ultrasound for invasive procedures was not provided in any of the test-checked DHs/ GHs and ABG analysis machine was provided in DH Mavelikkara, DH Nedumangad and GH Alappuzha.

No remarks were furnished by GoK (November 2023).

3.8. Maternity Services

Maternity care refers to the health services provided to women throughout the pregnancy, during labour and birth, and after birth for up to six weeks and to babies and families. It can include monitoring the health and well-being of the mother and baby, health education and assistance during labour and birth. IPHS prescribes Obstetrics and Gynaecology as an essential service including in-patient facilities for a hospital from the CHC level to DH level. Further, IPHS stipulates that maternal and child healthcare services are essential for PHCs.

Audit test-checked availability of maternity services in seven CHCs, seven DH/ GHs and seven TH/ THQHs. It was observed that O and G services were not provided in any of the seven test-checked CHCs, THQH Malayinkeezhu and GH Alappuzha [36]. It was also observed that none of the test-checked PHCs provided labour services (March 2024).

[36] Gynaecology services provided by WCH Alappuzha

3.8.1. Achievement in Antenatal check-ups and distribution of Iron folic Acid tablets, Calcium tablets and Tetanus Toxoid among pregnant women

Achievement of required four Antenatal check-ups (ANC) and distribution of Iron folic Acids (IFA) tablets, Calcium tablets, Tetanus Toxoid (TT) to pregnant women in 2019-20 as compared to 2015-16 is given in **Table 3.14**.

Table 3.14: Indicators of Antenatal care, TT administration and distribution of IFA tablets in the State

(in per cent)

Indicators	2015-16	2019-20
ANC received in the first trimester	95.1	93.6
Pregnant women received at least four ANC	90.1	78.6
TT administration	96.4	95.2
IFA (180 days)	47.4	67.0

Scales determined by Audit	Good (91-100)	Moderate (51-90)	Poor (0-50)

(Source: NFHS-5)

Severe decline was noticed in the percentage of pregnant women who received at least four ANC.

3.8.2. Status of institutional deliveries

Status of institutional deliveries during 2015-16 and 2019-20 is given in **Table 3.15**.

Table 3.15: Indicators of institutional births and home births by skilled health personnel in the State

(in per cent)

Indicators	2015-16	2019-20
Institutional births	99.80	99.80
Institutional births in public health facility	38.30	34.10
Home birth by skilled health personnel	0.10	0.20

(Source: NFHS-5)

The above table indicates that institutional births in public health facility has declined from 38.30 *per cent* to 34.10 *per cent*.

3.8.2.1. Pathological investigations

Availability of pathological investigations for pregnant women in test-checked DH/GH/TH/THQHs is shown in **Table 3.16**.

Table 3.16: Availability of pathological investigations for pregnant women in test-checked DH/ GH/ TH/ THQHs

Name of test	DH/ GHs (7)	TH/ THQHs (7)
Blood group including Rh factor	7	7
Rapid Plasma Reagin (RPR)	5	5
Pregnancy Test	5	5
Malaria test	7	7
Blood Sugar testing	7	7

Scales determined by Audit	Good (6-7)	Moderate (4-5)	Poor (1-3)

(Source: Information collected from test-checked hospitals)

Facilities for RPR and Pregnancy Test were not available in four out of the 14 test-checked hospitals.

3.8.2.2. Caesarean deliveries

Status of caesarean deliveries (C-section) in the State in 2019-20 as compared to 2015-16 is given in **Table 3.17**.

Table 3.17: Status of caesarean deliveries (C-section) in the State

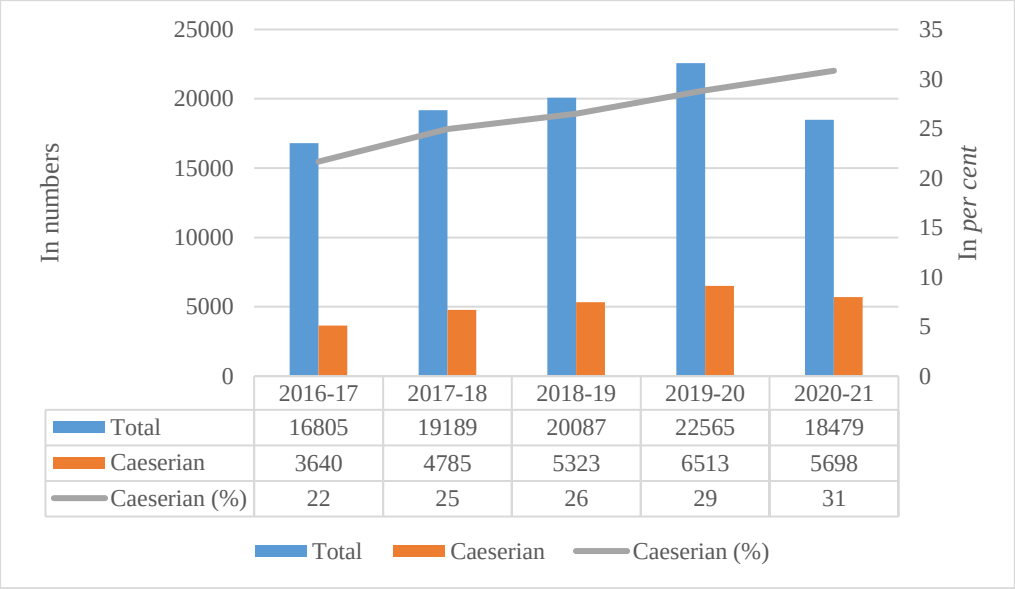
(in per cent)

Indicators	2015-16	2019-20
C-section deliveries	35.8	38.9
Private health facility C-section deliveries	38.6	39.9
Public health facility C-section deliveries	31.4	37.2

(Source: NFHS-5 for Kerala pertaining to 2019-20)

Audit collected the data of the caesarean deliveries for the period from 2016-17 to 2020-21 in the 12 test-checked hospitals having facility for delivery and noticed that the percentage of the caesarean deliveries increased year after year until 2019-20 as shown in the **Chart 3.8**.

Chart 3.8: Increase in percentage of C-section deliveries in test-checked hospitals



(Source: Data obtained from test-checked hospitals)

Among the hospitals test-checked, Audit found that DH Mavelikkara (59 *per cent*), THQH Kayamkulam (56 *per cent*) and DH Nedumangad (46 *per cent*) had the highest percentage of caesarean deliveries.

3.8.3. Vaccination of birth doses to new-born

Achievement of birth doses given to newborn in the selected districts during 2021-22 are as shown in the **Table 3.18**.

Table 3.18: Achievement of birth doses given to newborn during 2021-22

Name of Districts	Total Live Births	Achievement (in *per cent*)		
		Vitamin K	OPV	Hepatitis-B
Thiruvananthapuram	36930	97	98	89
Alappuzha	15811	99	100	98
Malappuram	87843	63	81	65
Wayanad	13024	99	97	99

Scales determined by Audit	Good (91-100)	Moderate (71-90)	Poor (0-70)

(Source: Data obtained from DHS)

Audit observed that achievement with respect to birth doses given to newborn was the least in Malappuram district.

3.8.4. Discharge before minimum stay post delivery

IPHS prescribes minimum 48 hours of stay after delivery as essential service under maternal health. The total number of women discharged within 48 hours after delivery during 2021-22 in selected districts is shown in **Table 3.19**.

Table 3.19: Number of women discharged within 48 hours of delivery during 2021-22

Name of Districts	Total number of Institutional deliveries	Number of women discharged within 48 hours of delivery	Percentage
Thiruvananthapuram	36290	755	2.08
Alappuzha	15658	381	2.43
Malappuram	87056	22053	25.33
Wayanad	12936	748	5.78

(Source: Data obtained from DHS)

Audit observed that the percentage of women discharged within 48 hours of delivery was the highest in Malappuram district.

3.8.5. Still births

WHO defines still birth as a baby who dies after 28 weeks of pregnancy, but before or during birth. The still birth rate in test-checked hospitals is given in **Table 3.20**.

Table 3.20: Still birth rate in test-checked hospitals

Hospitals	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
DH Mavelikkara	0	0	0	0	1.30	0
DH Tirur	0	0	0.78	0.42	0.82	1.46
DH Nedumangad	0	0	0.75	0	0	0.6
DH Mananthavady	0	0	0	0	0	0
GH Alappuzha	Delivery services not available					
GH Neyyattinkara	0	0	0	0	0	0
GH Kalpetta	0	1.85	0	0	0	1.96
TH Thuravoor	Delivery services not available					0
THQH Kayamkulam	0	0	0	0	0	0
TH Wandoor	0	0	0	0	0	0
THQH Tirurangadi	0	2.29	1.01	0	1.26	0
TH Fort	0	0	0	0	0	0
THQH Malayinkeezhu	Delivery services not available					
THQH Vythiri	0	0	0	0	0	0
MCH Manjeri	1.96	2.81	3.18	5.26	5.76	13.48
MCH Thiruvananthapuram	0.58	0.09	0.36	0.09	0	0.43

Scales determined by Audit	Good (0)	Moderate (0.1 – 5)	Poor (> 5)

(Source: Data obtained from test-checked hospitals)

Audit observed that there was a steady increase in the still birth rate in MCH Manjeri.

3.8.6. Availability of beds for Maternal and Childcare in District Hospitals

IPHS recommends allocation of 63 to 143 beds (28 to 32 *per cent*) for Maternal and Childcare services in DHs having bed strength in the range of 100 to 500.

Against the availability of 1,563 beds in six test-checked DH/ GHs providing maternal and childcare, only 16 *per cent* (244 beds) were allocated for maternal and childcare.

3.8.7. Availability of equipment

The IPHS prescribed 28 types of equipment for Labour Ward, Neonatal and Special Newborn Care Unit (SNCU) for DHs and 20 types for THs. Audit examined the availability of 28 types of equipment in six test-checked DHs/ GHs and 18 essential equipment in six THs/ THQHs having a labour room and neonatal unit or SNCU. The details are given in **Tables 4.14** and **4.15** of this Report.

3.9. Diagnostic services

Diagnostic services are the backbone of any hospital for extending evidence-based healthcare to the public. In the case of radiology services, availability of essential equipment, reagents and human resources are the main drivers for the delivery of quality pathology services through in-house laboratories. The related audit observations are discussed in the succeeding paragraphs.

3.9.1. Radiology services

The role of radiology is central to disease management for the detection, staging and treatment of diseases. Adequate availability of functional radiology equipment, skilled human resources and consumables are the key requirements for the delivery of quality radiology services.

The IPHS prescribed standards for equipment in DHs (X-ray, Ultrasonography and Mammography[37], etc.), THs (X-ray, Ultrasonography) and CHCs (X-ray).

Audit observed that all types of prescribed radiology services were not available in any of the test-checked hospitals except DH Tirur. The position of availability of essential radiology services is given in **Table 3.21**.

Table 3.21: Availability of various types of radiology services

Radiology services	No. of DH/ GHs (7)		No. of TH/ THQHs (7)		No. of CHCs (7)	
	Required as per IPHS	Available and functional	Required as per IPHS	Available and functional	Required as per IPHS	Available and functional
X-ray	7	7	7	6	7	1
Dental X-ray	7	4	7	2	Not applicable	
Ultrasonography (USG)	7	2	7	1	Not applicable	
Mammography	4	1	Not applicable			

Not applicable indicates that the services were not essential as per IPHS.
(Source: data obtained from Test-checked hospitals/ CHCs)

[37] Essential for the hospitals having bed strength of more than 300 beds

X-ray services were available in only one of the seven test-checked CHCs[38]. Audit also observed that in TH Fort, the X-ray facility was not functional due to lack of High Tension power connection. Dental X-ray units were available in 10 out of the 14 test-checked TH/ THQH/ DH/ GHs. However, the same was not functional in four hospitals due to repair of the machine, non-availability of dark room facility, etc. Ultrasonography machine was not available in 10 hospitals (out of 14 DH/ GH/ TH/ THQHs) and the machine available in GH Kalpetta was not being utilised due to non-availability of Sonologist. Mammography service was available only in DH Mananthavady out of the four DHs[39] having sanctioned bed strength exceeding 300.

Thus, there were serious gaps in the basic provision of radiology services in the test-checked DH/ GH/ TH/ THQH/ CHCs which limited the access of patients to evidence-based treatment facilities and quality care.

In the case of AYUSH institutions, only two out of eight hospitals (District Ayurveda Hospital Kalpetta and Government Ayurveda Marma Hospital Kanjiramkulam) and the selected Medical Colleges were provided with X-ray units.

3.9.2. Availability of pathology services

3.9.2.1. Modern Medicine institutions

Audit verified the availability of 67 types of facilities for investigations in DH/ GHs, 40 types in TH/ THQHs and 29 types in CHCs as prescribed in IPHS under five categories to be carried out in the CHCs to district-level hospitals.

Scrutiny of records disclosed that the full range of pathological investigation facilities was not available in any of the test-checked hospitals. Audit noticed that facility for 11 investigations was not available in any of the DH/ GHs, 13 in TH/ THQHs and four in CHCs (**Appendix 3.4**).

The IPHS prescribe basic laboratory services and diagnostic services for a PHC. On verification of the availability of laboratory services in 38 PHC/ FHCs, Audit noticed that the services were not provided in eight hospitals[40]. The shortage of lab technicians against IPHS norms in test-checked hospitals are detailed in Paragraph 2.2.4 of the Report.

3.9.2.2. AYUSH institutions

The pathology services in the hospitals as well as in dispensaries were provided through in-house laboratories only in eight out of 18 test-checked institutions (March 2021) (**Appendix 3.5**). No such facility was available in nine hospitals, whereas a collection facility was available in GAD Bharanikkavu.

Thus, pathology services were not available as prescribed in IPHS, depriving the public of evidence-based healthcare. Non-availability of essential equipment

[38] GTH, Nalloornad
[39] DH Mananthavady, DH Mavelikkara, GH Alappuzha, GH Neyyattinkara
[40] FHC Thalavadi, PHC Kannamangalam, PHC Kurumbalangode, PHC Thennala, PHC Othukkungal, FHC Cherukavu, PHC Varadoor, PHC Perumpazhuthoor

and short deployment of skilled human resources in the test-checked hospitals were amongst the reasons for the absence of desired investigation facilities.

GoK replied (October 2023) that Department of ISM would take necessary action to provide laboratory service in the institutions under it.

3.9.2.3. Pathology equipment

The IPHS prescribes 87 types of pathology (laboratory) equipment for the DHs and 33 for THs depending upon their bed strength. Audit verified the availability of 87 equipment in DH/ GHs and 28 equipment in TH/ THQHs as detailed in **Tables 4.14** and **4.15** of this Report.

3.10. Auxiliary and support services

3.10.1. Ambulance services

DHs and THs are required to have one to four ambulances according to its bed strength. In nine[41] hospitals, the required number of ambulances were not maintained during 2019 to 2021. In TH Fort, no ambulance was available for the entire period of audit.

3.10.2. Dietary services

The IPHS envisages dietary service as an important therapeutic tool which is an essential service for DH/ TH/ CHCs and desirable for PHCs.

Dietary service was provided only in six[42] out of the 67 hospitals test-checked in Audit. Specific kitchen facility was available only in Government Mental Health Centre (GMHC), Thiruvananthapuram, GH Neyyattinkara and in THQH Vythiri. Service of the dietician was available only in eight hospitals.

3.10.3. Blood Banks

As per IPHS, blood bank is one of the essential services that a DH has to provide. Blood banks should be in close proximity to pathology department and at an accessible distance to OT, ICU and emergency and accident departments. Test-check of seven DH/ GHs revealed the following:

- DH Nedumangad, GH Alappuzha, GH Neyyattinkara, and GH Kalpetta were not equipped with blood banks.
- In DH Tirur, the blood bank was not in close proximity with Pathology department and not within accessible distance to OT, ICU, etc.
- The blood bank sanctioned in 2012-13 to DH Mavelikkara received licence only in August 2021 and commenced functioning in March 2022

[41] GH Kalpetta, DH Mavelikkara, THQH Kayamkulam, THQH Tirurangadi, DH Tirur, TH Fort, DH Nedumangad, GH Alappuzha, GH Neyyattinkara

[42] GH Neyyattinkara, DH Nedumangad, Government Mental Health Centre Thiruvananthapuram, THQH Vythiri, GH Alappuzha and DH Mavelikkara

due to shortcomings such as lack of adequate infrastructure, non-availability of trained manpower, etc.

- GoK sanctioned (July 2017) a blood bank to GH Alappuzha. The equipment were supplied (January 2019) by KMSCL. Audit observed (February 2022) that the equipment were idling for three years due to lack of sufficient infrastructure and delay in completing civil and electrical works.

3.10.4. Laundry services

The provision of clean linen is a fundamental requirement for patient care. Incorrect procedure for handling or processing of linen can present an infection risk both to staff and patients who subsequently use it.

As per the IPHS, laundry facilities should be available in the hospitals to provide linen to patients. Audit conducted a joint verification in the wards of the hospitals and the availability of the laundry and cleaning services in the wards are as detailed in **Table 3.22**.

Table 3.22: Availability of laundry/ cleaning services in test-checked DHs/ THs/ CHCs

Particulars	DH/ GHs (7)	TH/ THQHs (7)	CHCs (5)[43]
Whether bed linen is changed every day?	7	5	5
Whether bed linen is changed every time when got soiled?	7	7	5
Whether any officer visits to check the bed linen every day?	7	4	4
Whether mopping of floors is done every day?	7	7	5
Whether machines are used for mopping?	3	2	0
Whether garbage is removed from patient care area regularly?	7	7	5
Whether closed trolley is used for removal of garbage?	5	5	2

(Source: Joint verification in test-checked hospitals)

Ninety two out of 141 inpatients surveyed reported that clean, dry and ironed linen were provided by hospitals and 85 patients reported changing bed linen regularly. 92 *per cent* of patients reported that housecoat/ pyjamas were not provided by the hospitals.

3.10.5. Bio-Medical Waste Management

The Bio-Medical Waste Management Rules, 2016 (BMWM Rules, 2016) stipulates the procedure for collection, handling, transportation, disposal and monitoring of the bio-medical waste generated in hospitals with clear role for the waste generators and the operators. The observations on the scrutiny of records in test-checked hospitals with reference to BMWM Rules, 2016 are furnished in **Table 3.23**.

[43] Of the seven test-checked CHCs, inpatient services were not available in CHC Manamboor and GTH Nalloornad

Table 3.23: Bio-medical waste management in major test-checked institutions

Item	DH/ GH (7)	TH/ THQH (7)	GMC (3)
Whether the hospital received authorisation from SPCB	3	1	0
Whether bar code system for bags/ containers was implemented as per Rule 4	7	7	3
Whether annual training programmes were conducted as per Rule 4 and Guidelines for Management of Healthcare Waste as per BMWM Rules, 2016	7	3	1
Whether Annual report was submitted to SPCB and uploaded in Website as per Rules 4 and 13	1	0	0
Whether installation of in-house incinerator and on-site treatment and disposal facility was done	3	0	2
Whether Quality Team/ Infection Control Committee/ Bio-Medical Waste Management Committee was constituted (if there are more than 30 beds) or Bio-Medical Waste Supervisors have been appointed as per Paragraph 5.10 of Guidelines for Management of Healthcare Waste as per BMWM Rules, 2016	3	2	3
Whether single layered or double layered bags (using two bags) were used for collection of waste from COVID-19 isolation wards	7	6	3

(Source: Data obtained from test-checked hospitals)

The deficiencies in implementation of BMWM Rules, 2016 are furnished in Chapter VIII of this Report.

3.10.6. Mortuary services

As per IPHS, the DHs and THs are required to have a mortuary. Audit verified the availability of the facility in test-checked hospitals as detailed in **Table 3.24**.

Table 3.24: Availability of mortuary services in test-checked DH/ GH/ TH/ THQHs

Name of hospital	Mortuary available	Located in a separate building	Waiting area for relatives and a space for religious rites	Separate room for body storage with at least two deep freezers	Mortuary table (Stainless steel autopsy)
DH Mavelikkara	Yes	Yes	Yes	Yes	Yes
GH Alappuzha	Yes	Yes	No	Yes	No
GH Kalpetta	No	No	No	No	No
TH Fort	No	No	No	No	No
THQH Malayinkeezhu	No	No	No	No	No
TH Wandoor	No	No	No	No	No
DH Mananthavady	Yes	Yes	No	Yes	Yes
DH Nedumangad	Yes	Yes	Yes	Yes	Yes
GH Neyyattinkara	Yes	Yes	No	Yes	Yes
DH Tirur	Yes	Yes	Yes	Yes	Yes
TH Thuravoor	Yes	Yes	No	No	Yes
THQH Kayamkulam	Yes	Yes	Yes	Yes	Yes
THQH Tirurangadi	Yes	Yes	Yes	Yes	Yes
THQH Vythiri	Yes	Yes	No	No	No

Colour Code : Green/yes – Available, Red/no – Not available
(Source: Data obtained from test-checked hospitals)

Four of the 14 DH/ THs were functioning without a mortuary. Cold chamber for preservation of two dead bodies as prescribed in IPHS was not provided in TH Thuravoor and THQH Vythiri. Stainless steel autopsy table was not provided in THQH Vythiri.

3.10.7. Patient registration, grievance/ complaint redressal

IPHS prescribes that the hospital should display a citizen's charter indicating the services available, user fees charged, if any, and a grievance redressal system. Citizen's charter shall be displayed at OPD and entrance in local language including patient rights and responsibilities. During the field visit, Audit verified the availability of citizen's charter, OP counters and complaint redressal mechanism in test-checked hospitals as detailed in **Table 3.25**.

Table 3.25: Availability of services related to patient registration, grievance/ complaint redressal

Particulars	MCHs (3)	DH/ GHs (7)	TH/ THQHs (7)	CHCs (7)	PHC/ UPHCs (38)
Availability of adequate registration counters	0	0	0	0	20
Patient Satisfaction Survey (OPD)	0	5	0	1	8
Display of Citizen's charter in hospitals	0	3	3	5	21
Providing unique ID at the time of registration	3	5	6	5	24
Availability of complaint register and whether kept available for beneficiaries	0	5	3	4	20
Formation of Grievance Redressal Committee and redressal of complaints in a timely manner	2	1	2	3	11

Scales determined by Audit	Good	Moderate	Poor
	MCH: (3) DH/TH/CHC: (7) PHC: (>31)	MCH: (2) DH/TH/CHC: (4-6) PHC: (16-30)	MCH: (0-1) DH/TH/CHC: (0-3) PHC: (0-15)

(Source: Data obtained from test-checked hospitals)

Kerala Accreditation Standards for Hospitals (KASH) requires displaying the citizen's charter at a suitable place in the AYUSH hospitals. Citizen's charters were not displayed in nine out of 18 AYUSH institutions test-checked.

GoK stated (October 2023) that institutions under the Department of ISM were in the process of upgradation to KASH/ NABH accreditation standards which would assure facilities like citizen's charter, OP counter, complaint redressal mechanism etc. Homoeopathy department had issued instructions to hospitals and dispensaries for the display of citizen's charter and intimated that all the test-checked hospitals and dispensaries except GHD Thrikkalangode displayed citizen's charters.

3.10.8. Infection Control Management

The IPHS stipulates formation of infection control team and preparation of Standard Operating Procedure (SOP) for infection control in TH/ DHs.

SOPs were prepared by all test-checked TH/ THQH/ DH/ GHs except GH Kalpetta, TH Fort and THQH Malayinkeezhu. All hospitals managed bio-medical waste disposal through outsourcing and the other wastes were disposed internally through boiling, autoclaving, chemical sterilisation, etc. However, Audit noticed dumping of waste in premises of GMC, Thiruvananthapuram as detailed in Paragraph 4.7.1.3.

3.10.9. Patient safety

3.10.9.1. Availability of fire prevention facilities in test-checked Modern Medicine institutions and compliance with norms

The IPHS requires that fire extinguishers, sand buckets, etc., should be available and maintained to be readily available when needed. Staff should be trained in using firefighting equipment. Surprise mock drills should be conducted at regular intervals. No Objection Certificates (NOC) from the competent fire authority is a statutory requirement as per IPHS.

Out of the 67 hospitals inspected, Audit found that only six hospitals[44] had obtained NOCs from the Fire Department. Fire extinguisher facility was available only in 47 hospitals. Sand buckets used as absorbing agent on spilled flammable liquids were kept only in eight hospitals[45]. Evacuation plan routes for fire exit were displayed only in 11 hospitals[46]. Fifty to sixty *per cent* of the institutions reported that they had no plan for prevention of fire, adequate firefighting equipment, periodic training and regular mock drill for fire and other disaster situations.

3.10.9.2. Availability of firefighting equipment in test-checked AYUSH institutions

Audit observed that safety of patients, attendants, visitors and the hospital staff from fire was compromised in 11 institutions out of the 18 test-checked, as no fire extinguishers/ fire hydrants were available in these institutions.

GoK replied (October 2023) that during the financial year 2022-23, 120 institutions under ISM were provided with firefighting equipment. Homoeopathy Department also purchased fire extinguishers during 2022-23 with the available plan fund and distributed plan fund to all other dispensaries and hospitals during 2023-24 for the purchase.

Government may prioritise compliance with statutory fire safety norms, thereby ensuring the safety of patients and staff.

---

[44] GH Alappuzha, FHC Punnapra (N), UPHC Biyyam, THQH Kayamkulam, DH Mananthavady, FHC Puliyoor

[45] TH Fort, GH Alappuzha, FHC Punnapra (N), TH Thuravoor, GTH Nalloornad, FHC Perumbalam, GMHC Thiruvananthapuram, CHC Chunakkara

[46] TH Fort, GH Alappuzha, FHC Punnapra (N), UPHC Biyyam, W & C Ponnani, DH Tirur, UPHC Ponnani, UPHC Mullathuvalappu, FHC Chokkad, GH Kalpetta, FHC Parappanangadi

3.11. Recommendations

- Government should ensure that minimum assured services as per IPHS norms, are available at all levels of hospitals alongwith prescribed patient amenity services.
- Government should ensure availability of pathological services, equipment and manpower in hospitals for timely and quality treatment of patients.