SUPREME AUDIT INSTITUTION OF INDIA
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Report of the Comptroller and Auditor General of India on Public Health Infrastructure and Management of Health Services

Government of Karnataka

Report No. 08 of 2024

(Performance Audit - Civil)

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Preface

This Report of the Comptroller and Auditor General of India for the year ended 31 March 2022 has been prepared for submission to the Governor of Karnataka under Article 151 (2) of the Constitution to be tabled in the State Legislature.

The Report covering the period 2016-22 contains the results of Performance Audit of 'Public Health Infrastructure and Management of Health Services'.

The instances mentioned in this Report are those which came to notice in the course of test audit for the period 2016-22 as well as those which came to notice in earlier years but could not be reported in the previous Audit Reports; matters relating to the period subsequent to 2016-22 have also been included, wherever necessary.

Audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.

Audit wishes to acknowledge the cooperation received from the Departments of Health and Family Welfare, Medical Education and Urban Development at each stage of the audit process.

EXECUTIVE SUMMARY

WHY CAG DID THIS AUDIT?

According to World Health Organisation, "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". Under the Constitution, Health is a State subject and Karnataka has developed its own healthcare delivery system based on the guidelines issued by the Government of India from time to time. The State has a health policy of its own on the lines of the National Health Policy. The policy provides for the mission and vision of the State on health and healthcare besides equity in health care and quality health care. Healthcare facilities in the State are provided through a three-tier system *viz*., primary, secondary and tertiary level of healthcare.

Access to healthcare services is a cause of major concern especially in public health institutions. Shortage of medical professionals, absence of facilities, lack of quality assurance and insufficient spending are few significant issues plaguing public health care. It is in this backdrop that the Performance Audit of Public Health Infrastructure and Management of Health Services in Karnataka has been carried out during 2021-22, covering the period 2016-17 to 2021-22. This report attempts to assess the quality of health services and patient care services provided by the public health care facilities in the State.

SIGNIFICANT AUDIT FINDINGS

The overall performance of the State in providing quality health care services, though satisfactory, had certain deficiencies. The observations noticed on the management of the services and health care infrastructure are summarized below:

Adequacy of Human Resources

There was shortage of about 45 and 53 *per cent* in respect of doctors/specialists and nurse cadres respectively in Taluk Hospitals (THs) in comparison with the Indian Public Health Standards (IPHS), the shortage of specialists/doctors being significant in services such as General Surgery, Ophthalmology, Anaesthesia *etc*. There was asymmetric distribution of human resources in the test-checked hospitals.

Recommendation 1: The State Government should consider adopting IPHS norms for assessing the sanctioned strength in Health departments including specialists.

Recommendation 2: The State Government should step up its efforts to expedite recruitment process in order to fill the vacancies in all cadres under health sector.

Recommendation 3: The staff should be posted rationally across the health institutions to address staffing deficiencies, ultimately improving the delivery of healthcare services.

Policy framework for healthcare services

The policy framework for hospital management in the State had gaps that need to be addressed. The State neither prepared its own norms/standards nor did it adopt those prescribed by the Government of India (GoI) in respect of outpatient and inpatient services, pathology investigations and human resources. This has and will continue to impact the availability of health care infrastructure and patient care services.

The State did not have a documented procurement policy to ensure availability of essential drugs/medicines at all times, improve the existing system of procurement and supply of the drugs and quality assurance of drugs. Neither there was any policy and action plan for ensuring the proper assessment of the requirement of the medical equipment, timely procurement, distribution system and maintenance of equipment.

Outpatient Services

The availability of doctors was not proportionate to the outpatient load. This resulted in much higher OPD cases per doctor in the secondary HIs in comparison with other HIs. Non- availability of specialized doctors led to non-availability of services like ENT, Pediatrician, *etc.*, for substantial periods. Registration Counters available were not commensurate with the OPD load in test checked HIs. This could potentially lead to challenges in providing timely and appropriate medical care to patients seeking treatment.

Inpatient Services

IPD services such as ICUs beds were not adequate in most of the test checked health institutions as per IPHS guidelines. There was shortage of operation theatres in THs/CHCs and significant shortage of drugs and equipment in IPD and Emergency services. The absence of critical services and shortages in facilities and resources undermines patient well-being, compromise healthcare quality, and erode public trust in the healthcare system, exacerbating health disparities and economic burdens.

Emergency Response and Health System Preparedness

Drugs worth ₹17.79 crore required for preventing/curing of COVID-19 were yet to be supplied. The State incurred additional expenditure on procurement of PPE kits for COVID 19. There was significant delay in supply of the essential medical equipment and consumables at the time of emergency even after providing exemption under 4(a) of KTTP Act. Equipment worth ₹95.15 crore was yet to be supplied. MGPLS was not functional in few of the test checked HIs, fire safety audit was not conducted in the test checked HIs. These deficiencies collectively emphasize the critical need for a more streamlined and proactive approach.

Maternity Services

Maternity services lacked essential human resource, drugs and pathological investigation facilities. These deficiencies significantly hindered the hospitals' ability to effectively monitor the health of mothers and newborns, potentially impacting maternal and infant mortality rates. Newborns delivered through pre-term labour remained at risk of serious postnatal complications and neonatal deaths.

Support Services

The provisioning of diagnostic services in the test checked hospitals was sub-optimal, marred by inadequacy of prescribed equipment. Distinctive dietary requirements for different categories of patients were not ensured. Dietary services to the patients apart from the pregnant women were not provided in 10 test checked health institutions. These deficiencies could lead to delayed or inaccurate diagnoses, reduced emergency response effectiveness, compromised patient health due to improper nutrition, and overall lower quality of healthcare services provided by the hospitals.

Auxiliary Services

In the test checked health institutions, air and surface samples were not regularly taken for microbiological survey to check for infections. Cleaning and laundry services, despite outsourcing, were not satisfactory in most of the hospitals. Similarly, bio-medical waste management was inadequate. Most of the health institutions did not have SOPs/checklist for hygiene and infection control.
The impact of inadequate hygiene and infection control practices in health institutions could be far-reaching, affecting patient outcomes such as well-being of the patients, health care workers.

Recommendation 4: The State Government should draw up an action plan to adopt and implement IPHS fully for provisioning of essential OPD, IPD and Emergency services in the Health Institutions (HIs).

Recommendation 5: The State Government should ensure that all essential services in Government HIs adhere to IPHS norms by facilitating the provision of manpower, drugs, and equipment. This will strengthen auxiliary and support services, ultimately enhancing the overall healthcare experience.

Recommendation 6: The State Government should examine the circumstances which led to delays, additional expenditure and non-utilisation of equipment required to tackle such emergency situations and take appropriate action.

Recommendation 7: The State Government should set a time limit for all Government HIs to obtain valid authorisations/licenses and penalize the concerned for any non-compliance.

Management of Drugs and Equipment

The drugs provided to the hospitals were short of their requirements as supplies were not commensurate with the indents by the hospitals. The system was unsuccessful in providing an unbroken supply of essential drugs to the patients in public health facilities as per its own prescribed Essential Drug List.

Quality assurance of the drugs procured was compromised as the bulk of the drug supplies were accepted without the intimation of the quality test reports. There were delays in sending samples for testing and in communicating the test results rendering the quality mechanism ineffective. There were six instances where the results of the Drug Controller (certified as Not of Standard Quality) varied with the results of the empaneled laboratories. In these cases, 59 *per cent* of the drugs were consumed before receipt of test results. The quality mechanism was thus ineffective.

The norms and parameters prescribed for storage of medicine were not adhered to. Due to non-availability of adequate storage facility, drugs/medicines were kept on the floors and without rack system.

Improper assessment of requirement of medical equipment led to redistribution to the other health institutions, expiry of the warranty period even before the equipment could be put to use and the equipment lying idle.

Recommendation 8: The State Government should prepare a comprehensive and well laid down policy for procurement and utilisation of essential drugs and equipment in line with IPHS norms and also develop a real time inventory monitoring system to address shortages, repairs and maintenance.

Recommendation 9: The State Government should consider freezing that batch of medicines, which are taken for quality checks till declaration of the results to prevent consumption of NSQ drugs. It should also consider maintaining buffer stock of all essential drugs and medicines to tide over shortages arising due to freezing of drugs.

Recommendation 10: A robust inventory management system should be implemented to track expiration dates and usage of drugs within the stipulated shelf life

Recommendation 11: Storage of drugs under conditions prescribed in the Drugs and Cosmetics Rules, 1945 to maintain their efficacy should be ensured, before being administered to the patients.

Health Care Infrastructure

There was regional disparity in distribution of health care facilities in the State. The departments failed to operationalise the completed infrastructure which aggravated the problems of inadequate access to quality health care. 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 health institutions. The building and operational areas in the test checked health institutions were distributed as per the infrastructure available rather than prescribed plan and area. Due to delay in completion/non-handing over of buildings built at a cost of ₹228.36 crore, activities in the test checked health institutions were not commenced. The initiation of critical health care activities was hindered due to above factors and contributed to inadequate access to quality healthcare.

Recommendation 12: The State Government should address the regional imbalance in terms of availability of Government HIs.

Recommendation 13: The State Government should make a comprehensive plan for determining the requirement and providing the requisite infrastructural facilities in HIs.

Recommendation 14: The State Government should put in place necessary procedures and provisions for effective utilisation of available infrastructural facilities to achieve the intended benefits in order to deliver quality health services.

Recommendation 15: The State Government should direct the HIs to set up a dedicated Disaster Management Committee for preparation and implementation of a disaster management plan for prevention, mitigation and response to ensure minimal damage in the event of any disaster.

Inadequate spending on the health care sector.

The average budget allocation for the period under review was 4.28 *per cent,* which was less than the percentage prescribed by the National Health Policy (NHP). The State's expenditure on the health sector ranged between 0.60 to 0.77 *per cent* of GSDP during the period. The departments concerned failed to utilise the funds released, which affects the quality and accessibility of healthcare services across the State.

Recommendation 16: The State Government should consider enhancing the budget allocation of the Health Sector to meet the NHP target.

Recommendation 17: The State Government should ensure that funds are released timely as per allocation and completely utilised to address the gap in the existing health facilities.

Recommendation 18: The State Government may review the funds being lying outside the Government accounts and issue instructions for the timely utilization of the funds for the intended purpose.

Implementation of Centrally Sponsored Schemes

There was a delay in release of matching share by the State Government towards NHM programme. The utilisation was around 94 *per cent* of the funds available under the scheme. The utilisation of funds was not consistent due to limited implementation of various activities under the Quality Assurance Programme. Under *Kayakalpa* Scheme, the number of Health Institutions which received the

award increased from 103 to 900 during 2016-21. Under LaQshya programme, as of October 2022, only 73 HIs have obtained State Certification and 46 HIs have obtained National Certification. Only 76 *per cent* of the claims received under PMJAY scheme were settled during the audit period and the funds provided under the scheme could not be utilised by the test checked units.

Recommendation 19: The State Government should ensure that the funds released under the GoI schemes are utilised fully and targets set for certification are achieved to assure the public that health care facilities meet stipulated standards.

Recommendation 20: The State Government may ensure the coverage of HIs under NQAS in order to maintain the prescribed standards to deliver quality health care services.

Recommendation 21: The State Government should design a strategy to enhance awareness and outreach through various activities for making the target population aware of the benefits.

Recommendation 22: The State Government should put in place a mechanism immediately to ensure that its stated commitment for all the issues raised in audit are carried out scrupulously and without delay.

Adequacy and effectiveness of regulatory mechanism

Varying levels of deficiencies were observed in compliance/adherence of existing regulatory mechanisms. The functioning of regulatory bodies and implementation of norms and regulations was ineffective. Shortage of staff in the Drug Control Department hampered drug testing and reporting. Bio-Medical Waste management continues to remain a major challenge. Significant number of HIs were functioning without valid licenses/authorisation.

The cumulative effects of these deficiencies could lead to long-term consequences, including chronic health issues, environmental degradation, and weakening of health institutions.

Recommendation 23: The State Government should ensure that all utilities generating bio-medical waste comply with the provisions with regard to authorisation, bar coding, annual returns to regulate the generation and disposal of bio-medical waste.

Recommendation 24: The State Government should ensure that sufficient human resources are provided to Drugs Control Department and Directorate of Radio Safety to ensure the safety of public health through constant and stringent monitoring.

Recommendation 25: The State Government may ensure that various regulatory bodies may adopt an adequate and effective monitoring mechanism to have conformity with the prescribed standards.

Sustainable Development Goal - 3

The department established Monitoring and Coordination Committees, including a State-level Steering Committee, to formulate action plans for achieving SDGs. However, there was no dedicated fund allocation to address gaps in achieving SDG 3 targets. Despite performing relatively well compared to other states under SDG 3, Karnataka failed to meet its own targets. Concerns persist regarding the incidence of TB and the prevalence of tobacco use.

Recommendation 26: The State Government should ensure that steps are taken to formulate a comprehensive plan to achieve the targets under SDG 3.

Chapter - 1
Introduction

Chapter - 1: Introduction

Health is a vital indicator of human development which is a basic ingredient of economic and social development. The Sanskrit word '*Swasthya'* implies equilibrium at six levels *viz*., physiological, tissues, metabolism, excretory function, senses, and the mind. "*Svasmin stite itisvasta*" meaning "those who are in equilibrium in the above manner are considered healthy. India recognises and considers right to healthcare and protection a priority.

Under the Constitution, Health is a State subject. Karnataka has developed its own healthcare delivery system and introduced (2004) the State Health Policy. This was later revised (2017) as Karnataka Integrated Public Health Policy (KIPHP) on the lines of the National Health Policy (NHP) 2017. The KIPHP defines the mission and vision of the State on Health and Health care with focus on equity in healthcare and providing quality healthcare. The policy interventions are organised in line with the World Health Organisation (WHO) health system framework and are aimed at universal healthcare, health and well-being and health emergencies as envisaged under the WHO 3-pronged structure. It is in this backdrop that the Performance Audit (PA) on Public Health Infrastructure and Management of Health Services in Karnataka has been carried out.

1.1 Health Services

The Indian Public Health Standards (IPHS) 2012 envisage that each Health Institution (HI) should deliver essential services (minimum assured services) and aspire to deliver specialised services to address the needs of patients. Adequate provisions for health services such as outpatient services, inpatient services, emergency services, maternity services, *etc*., should be made and these services should be delivered in an efficient and effective manner. The various services being provided in the HIs are detailed below:

Line services

i. Outdoor patient department
ii. Indoor patient department
iii. Emergency services
iv. Super specialty (OT, ICU)
v. Maternity
vi. Blood bank
vii. Diagnostic services

Support services

i. Oxygen services
ii. Dietary services
iii. Laundry services
iv. Biomedical waste management
v. Ambulance services
vi. Mortuary services

Auxiliary services

i. Patient safety facilities
ii. Patient registration
iii. Grievance / complaint redressal
iv. Stores

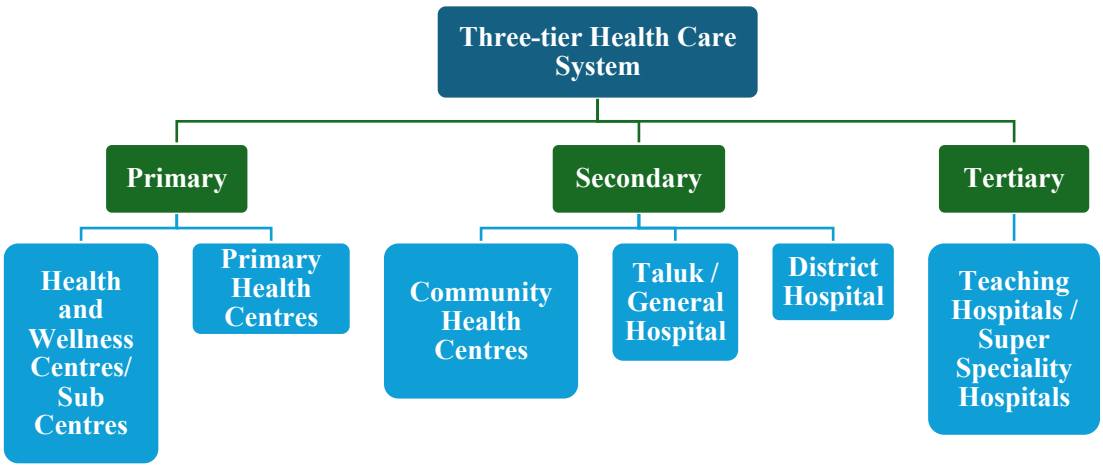
Resource Management

i. Building infrastructure
ii. Human resource
iii. Drugs and consumables
iv. Equipment

1.2 Overview of healthcare facilities in the State

The landscape of public healthcare facilities is structured into three levels in Karnataka for providing primary care, secondary care, and tertiary care as shown in **Figure 1.1**.

Figure 1.1: Three levels of public healthcare facilities in Karnataka



The primary and secondary healthcare services are provided through a network of District Hospitals (17), Taluk Hospitals (146), Community Health Centres (207), Primary Health Centres (2,531) and Sub Centres (9,160) through the Department of Health and Family Welfare Services. The Medical Education Department provides tertiary healthcare facilities through the Teaching Hospitals attached to Medical Colleges at the District levels. There are 17 Autonomous Medical colleges, two Dental Colleges and 10 Super Specialty Hospitals under the Medical Education department.

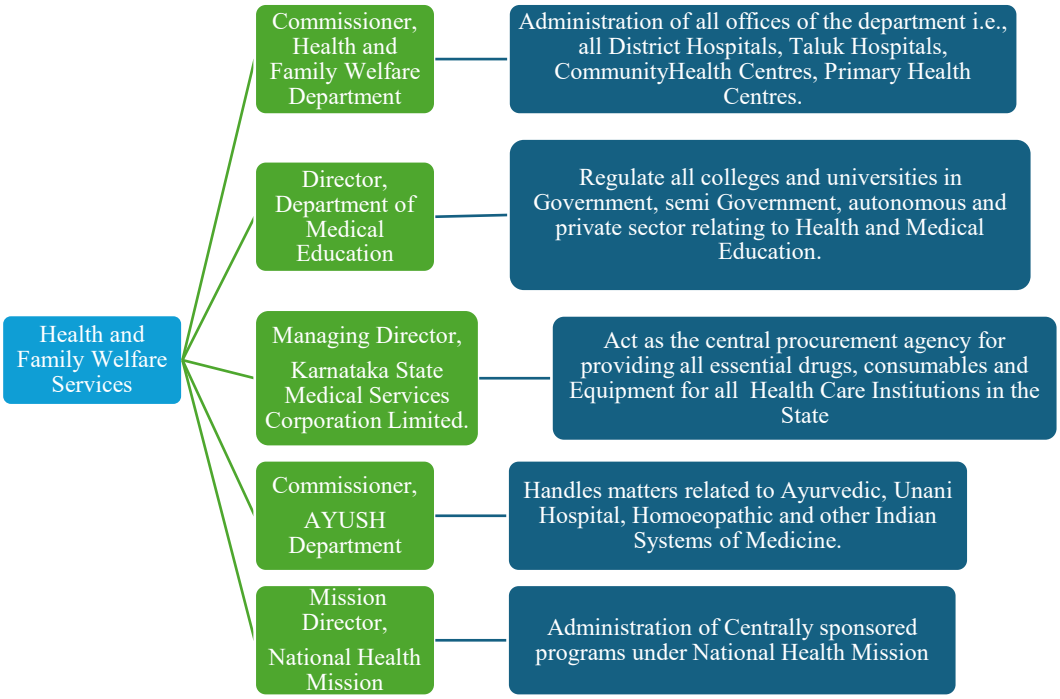
The Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH) Department provides healthcare through a network of 159 hospitals (6 to 275 bedded) and 662 dispensaries functioning across rural and urban areas.

Apart from the above, the Urban Local Bodies (ULBs) also provide healthcare services through hospitals and dispensaries at the Ward levels set up in their respective zones. In the State, only Bruhat Bengaluru Mahanagara Palike (BBMP) in Bengaluru Urban District and Hubballi-Dharwad Municipal Corporation (HDMC) in Dharwad District have Urban Health Centres (UHCs) mainly maternity homes. The ULBs also undertake immunisation/vaccination programmes along with the State departments.

1.3 Organisational Set-up

The Department of Health and Family Welfare Services (HFW) is headed by the Principal Secretary to Government and assisted by the Commissioner. The Department of Medical Education (ME) is headed by the Secretary to Government and assisted by the Director. The organisational setup of Health and Family Welfare and Medical Education Departments is as shown in **Figure 1.2**.

Figure 1.2: Organisational set-up

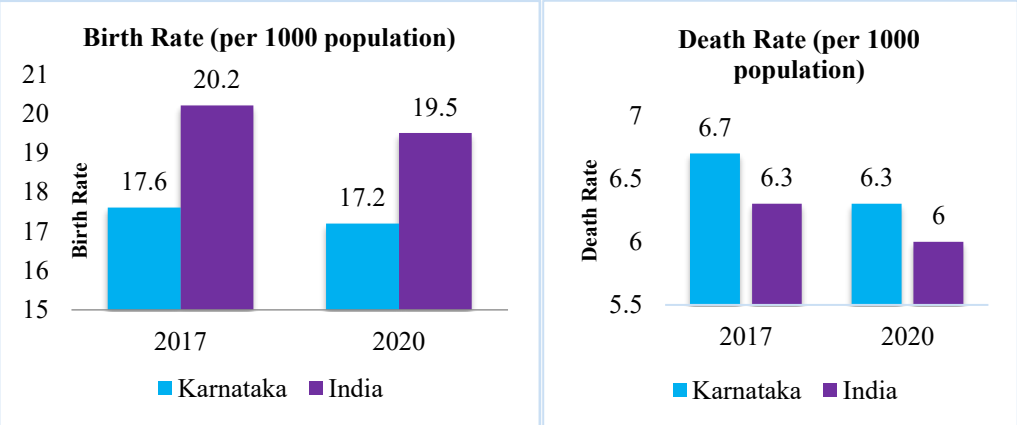


The HIs under the jurisdiction of ULBs, which function under the administrative control of Additional Chief Secretary to Government, Urban Development Department, are headed by a Chief Medical Officer.

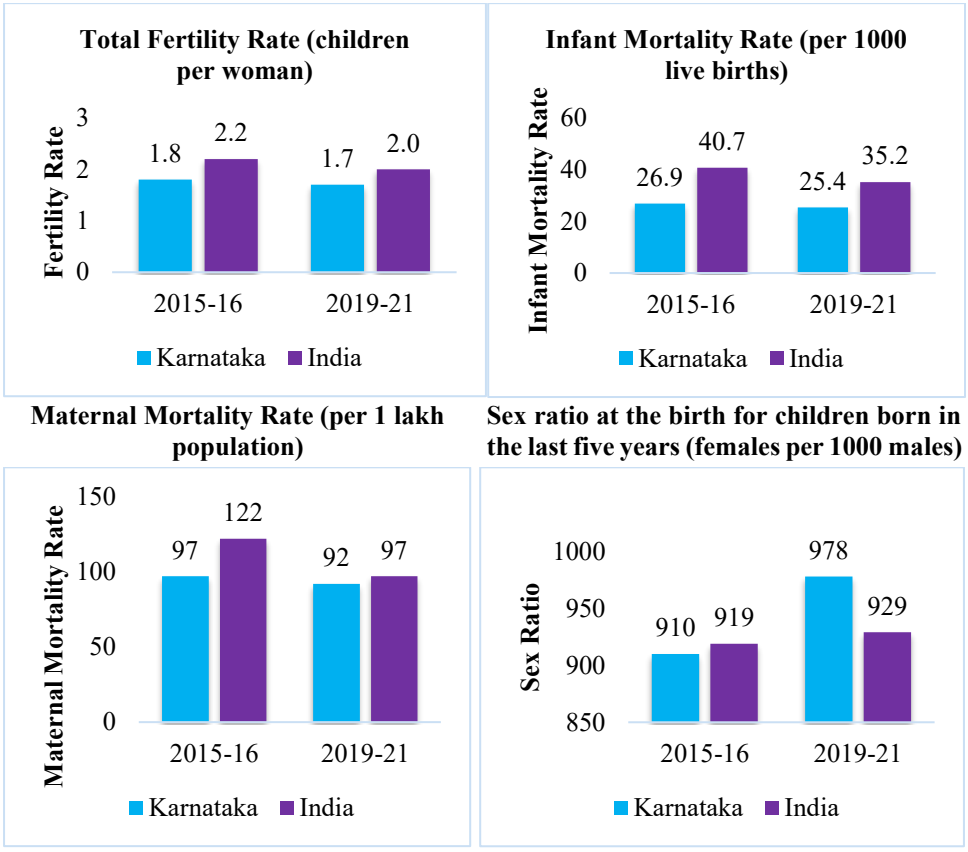
1.4 Status of Health Indicators in the State

Delivery of quality and efficient healthcare services in public health facilities plays a significant role in improving the health indicators of the public at large. The status of health indicators in the State is shown in the **Chart 1.1** below:

Chart 1.1: Health Indicators in the State



Source: Karnataka Economic Survey 2021-22 and SRS bulletins for the respective years



Source: NHFS Reports

As could be seen from the above health indicators, though Karnataka has done better as compared to the National average, there is a vast scope for improvement and the situation demands better healthcare services at all levels in order to build confidence in the psychology of patients as well as enhance their faith in the services.

1.5 Improvement in overall health Indicators

As per Sustainable Development Goals (SDG) India Index 2020-21, Karnataka stands third along with Andhra Pradesh, Goa and Uttarakhand with 72 points behind Kerala and Tamil Nadu among the Southern States. However, under SDG-3, Karnataka with an index score of 78 is placed fifth. Among the Southern States, only Tamil Nadu with a score of 81 is above Karnataka. The improvement in the performance of the State is shown in **Table 1.1** below:

Table 1.1: Ranking of Karnataka State

Overall and SDG 3	2018-19		2019-20		2020-21	
	Score	Rank	Score	Rank	Score	Rank
Overall SDG	64	3	66	4	72	3
SDG 3: Good Health and Wellbeing	69	5	72	3	78	5

Source-NITI Aayog SDG Index India Reports

1.5.1 Karnataka Health Indicators compared with National Health Indicators as per National Family Health Survey-5 (NFHS-5)

The status of the State in comparison with the National average is detailed in the **Table 1.2**.

Table 1.2: Karnataka Health Indicators as per NFHS

Indicator	NFHS -4 (2015-16)		NFHS-5 (2019-21)	
	Karnataka	India	Karnataka	India
Sex ratio of the total population (females per 1,000 males)	979	991	1034	1020
Sex ratio at birth for children born in the last five years (females per 1,000 males)	910	919	978	929
Total fertility rate (children per woman)	1.8	2.2	1.7	2.0
Neonatal mortality rate (NNMR)	18.5	29.5	15.8	24.9
Infant mortality rate (IMR)	26.9	40.7	25.4	35.2
Under-five mortality rate (U5MR)	31.5	49.7	29.5	41.9
Mothers who had an antenatal check-up in the first trimester (*per cent*)	65.9	58.6	71	70
Mothers who had at least 4 antenatal care visits (*per cent*)	70.1	51.2	70.9	58.2
Mothers whose last birth was protected against neonatal tetanus[1] (*per cent*)	88.1	89	93.6	92
Mothers who consumed iron folic acid for 100 days or more when they were pregnant (*per cent*)	45.2	30	44.7	44.1
Mothers who consumed iron folic acid for 180 days or more when they were pregnant (*per cent*)	32.6	14.4.	26.7	26
Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (*per cent*)	89.3	89.3	97.6	95.9
Mothers who received postnatal care from a doctor/ nurse/ LHV/ ANM/midwife/ other health personnel within 2 days of delivery (*per cent*)	65.5	62.4	87.4	78
Average out-of-pocket expenditure per delivery in a public health facility (₹)	4824	3197	4954	2916
Children born at home who were taken to a health facility for a check-up within 24 hours of birth (*per cent*)	5.6	2.5	12.3	4.2
Children who received postnatal care from a doctor/ nurse /LHV/ ANM/ midwife/ other health personnel within 2 days of delivery (*per cent*)	NA	NA	85.5	79.1
Institutional births (*per cent*)	94	78.9	97	88.6
Institutional births in public facility (*per cent*)	61.2	52.1	64.8	61.9
Home births that were conducted by skilled health personnel[2] (*per cent*)	3.1	4.3	1.6	3.2
Births attended by skilled health personnel (*per cent*)	93.7	81.4	93.8	89.4
Births delivered by caesarean section (*per cent*)	23.6	17.2	31.5	21.5
Births in a private health facility that were delivered by caesarean section (*per cent*)	40.3	40.9	52.5	47.4
Births in a public health facility that were delivered by Caesarean section (*per cent*)	16.9	11.9	22.6	14.3

Source: Information furnished by the HFW; State health indicators, which have been shaded green above have improved, those which have deteriorated are shaded red

As could be seen from the above, the percentage of birth delivered by caesarean section was more than the national statistics. Further, there was reduction in

[1] includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.

[2] Doctor/nurse/LHV/ANM/midwife/other health personnel.

consumption of folic acid tablets by the pregnant women during the period 2015-16 to 2019-21 which needs to be addressed.

1.6 Karnataka Integrated Public Health Policy

The Karnataka Integrated Public Health Policy (KIPHP) aimed to attain the highest possible level of good health and well-being of all people in the State to be realised through a preventive, promotive, curative, and rehabilitative healthcare orientation, with universal access to quality and affordable healthcare services to all, and inclusion of health in all developmental policies.

The scope of the policy provided for:

- robust human resources management in terms of size, composition, and distribution.
- strengthening health information system (e-hospitals, e-records, e-disease information-logistics, e-HR, e-office, telemedicine, e-referral information system).
- comprehensive assessment of requirement of medicines, vaccines and equipment.
- strategic procurement approaches and
- robust sustainable single payer/pooled financing mechanisms for secondary and tertiary care.

The implementation of the policy was inadequate as norms were either not prescribed or the existing national norms were not adopted and where norms were prescribed, they were not in accordance with the national norms as shown in **Table 1.3**.

Table 1.3: Status of adherence to standardisation of services and resources

Intervention/ inputs	Availability of State Government norms	Other standards/ Norms	Remarks	Reply of the State Government and Audit comments
Outpatient Department (OPD) / Inpatient Department (IPD)	No	Indian Public Health Standards (IPHS)	The State Government did not adopt the standards for various OPD and IPD services as prescribed in the GoI guidelines / IPHS.	The HIs follow the IPHS norms and the present infrastructure has been delivering services at a substantial rate, with regard to OPD and IPD care. During the course of Audit, it was noticed that the HIs were not able to cater the patients as per the IPHS norms in respect of various out and inpatient services as brought out in the report.
Human Resources	Yes. Prescribed in July 2014.	IPHS	The State norms were not in accordance with IPHS norms.	Presently HR for PHIs is proposed based on the Government order of 2014 and is supplemented by providing additional staff under NHM, compulsory rural services *etc*. Further, action has been initiated to augment the availability of HR in the PHIs and notifications have been invited to fill up paramedical and technical

Intervention/ inputs	Availability of State Government norms	Other standards/ Norms	Remarks	Reply of the State Government and Audit comments
				posts. As regards adoption of IPHS norms, a policy decision is required from the Government.
Drugs and Consumables	Essential Drugs List	IPHS, MNH Toolkit, NHM guidelines	Essential Drug List was updated annually at time of approval of selection of drugs by the State Therapeutic Committee and Need Assessment Committee.	In the financial year 2021-22 the categorisation of drugs was done as decided in the Need Assessment Committee meeting and the drug list was finalised as per National List of Essential Medicines (NLEM) standards and IPHS standards.
Equipment	No	IPHS	The State Government did not adopt IPHS norms.	Till date, the Government prioritized provision of adequate infrastructure to the health facilities. Now, proper procedures have been initiated to assess the need, technical specifications, and procurement procedure. This is undertaken based on gap analysis and the Government is in the process of purchasing equipment as per IPHS norms.

Source: Information furnished by HFW

Since the State Health Policy did not specify any criteria to be followed in respect of Outpatient Department (OPD)/Inpatient Department (IPD), management of drugs and equipment *etc.*, IPHS norms have been adopted as standard criteria.

The observations related to the above issues have been discussed in detail in the subsequent chapters.

1.7 Audit Objectives

The objectives of the Performance Audit (PA) are to:

- assess the adequacy of the funding for healthcare;
- assess the availability and management of healthcare infrastructure;
- assess the availability of drugs, medicines, equipment and other consumables;
- assess the availability of the necessary human resources at all levels *e.g.*, doctors, nursing, paramedics *etc*;
- examine the adequacy and effectiveness of the regulatory mechanisms for ensuring that quality healthcare services are provided in the public/ private healthcare institutions/ practitioners;
- examine the State funding and spending of various schemes of the Government of India; and
- assess whether State spending on health has improved the health and well-being conditions of the people as per SDG-3.

1.8 Scope of Audit

The PA covering the period 2016-17 to 2021-22[3] was conducted during November 2021 to May 2022 through (i) test check of files/records/information in the offices of the Secretariat, Commissioner of HFW, Director of ME, AYUSH Department, Karnataka State Medical Supplies Corporation Limited (erstwhile Karnataka State Drugs Logistics and Warehousing Society), ULBs and their HIs, District Drug Warehouses and District HFW Offices and (ii) field inspection of test checked HIs by way of examination of records, collection of information through Questionnaires/Proforma, replies to Audit enquiries, Joint Physical Verification (JPV) and beneficiary surveys.

1.8.1 Sampling Methodology

Karnataka State is divided into four revenue divisions for administrative purposes and consists of 31 districts and 176 taluks. Audit adopted the warehouse-wise consolidated inward value for the selection of the districts, taluks and HIs**.** The units were selected using Multistage Stratified Sampling technique through random number tables. The data was stratified in two layers – revenue division-wise districts and taluks/HIs under the selected districts. In the first layer, five districts were chosen from the four divisions using Simple Random Sampling by dividing the data of the divisions into various strata and selecting the districts randomly from those strata. A similar methodology (Simple Random Sampling by using random number tables) was adopted for selecting taluks/HIs in the selected districts. The number of HIs selected are shown in **Chart 1.2** and the list of test checked HIs is indicated in **Appendix 1.1**.

Chart 1.2: Information on number of test checked units

Sampled Commissionerates/Directorates

- Commissioner, Department of Health and Family Welfare
- Director, Department of Medical Education
- Karnataka State Medical Services Corporation Limited
- Commissioner, AYUSH Department
- Mission Director, National Health Mission
- Commissioner, Bruhat Bengaluru Mahanagara Palike
- Director, Municipal Administration

Five districts (Ballari, Bengaluru Urban, Dharwad, Kolar and Mysuru) for field study out of 31 districts selected using Stratified Random Sampling Method

- Three District Hospitals of selected districts
- Ten Sub Divisional/Taluk Hospitals of selected districts
- Six Community Health Centres (CHCs) of selected taluks
- Five out of 35 Urban Health Centres (UHCs) in the ULBs
- Fourteen out of 52 Primary Health Centres (PHCs)
- Three Medical Colleges (attached hospitals) of selected districs
- Two Superspeciality hospitals of selected districts
- Two AYUSH Hospitals of selected districts

[3] issues related to human resources, availability of medical equipment and services updated up to January 2024.

Urban Health Centres, mainly providing maternity care services having more than 20 beds are considered as Community Health Centres.

In view of limited resources, the sampling methodology was designed to capture and evaluate data in a representative manner throughout the year by selecting mid-month of each quarter.

An entry conference was held (29 October 2021) with the Principal Secretary, HFW; Secretary, ME; Mission Director, National Health Mission; Managing Director, Karnataka State Medical Supplies Corporation Limited (KSMSCL); Commissioner, AYUSH and Director, HFW to discuss the Audit objectives, Audit criteria, Audit scope and methodology. An exit conference was held (28 September 2022) wherein the findings of the PA were discussed in detail. The State Government furnished (October 2022) the replies which have been incorporated in the report.

1.9 Doctors'/Patient Survey

***Doctors' Survey*:** A total of 325 doctors were surveyed in 43 test checked hospitals to have an idea about the working conditions and professional requirements of the doctors. About 70 *per cent* of the doctors felt the infrastructure provided to see the patient was adequate. About 91 *per cent* were aware about the availability of generic drugs in the hospital pharmacy. About 34 *per cent* of doctors displayed their registration number in the clinic and were also mentioning in the prescription. Further, 93 *per cent* of doctors felt the need for improvement in the health infrastructure in the Government sector.

Patient Survey: Total 1,260 outpatients were surveyed in 43 test checked hospitals. Patients were satisfied with the availability of basic amenities like seating facility, drinking water, clean toilets, adequate registration counter, May I help desk *etc*., in all the hospitals except Mysore Medical College. About 57 *per cent* of the surveyed patients were able to complete the registration process within 15 minutes while it took more than 15 minutes for the others. About 70 *per cent* of the patients stated that all the medicines prescribed were available. For the remaining patients it was either partially available or not available at all. 88 *per cent* of patients visited the respective hospitals either due to affordability or due to good facilities and 12 *per cent* patients visited due to accessibility.

1.10 Audit Criteria

The criteria for the PA were derived from the following:

- ✓ National Health Policy 2017
- ✓ Karnataka Integrated Public Health Policy 2017
- ✓ Sustainable Development Goals
- ✓ MCI Act 1956 replaced by National Medical Commission Act, 2019
- ✓ Indian Public Health Standards (IPHS) 2012
- ✓ Indian Medical Degrees Act, 1916
- ✓ Professional Conduct, Etiquette and Ethics Regulation 2002
- ✓ Clinical Establishment Act, 2010
- ✓ Drugs and Cosmetic Act, 1940

- ✓ Pharmacy Act 1948 and Pharmacy Practice Regulations, 2015
- ✓ Regulatory mechanism for AYUSH
- ✓ The National Commission for Indian System of Medicine Act, 2020
- ✓ The National Commission for Homeopathy Act
- ✓ The Indian Nursing Council Act, 1947
- ✓ Bio Medical Waste Management Rules
- ✓ National Accreditation Board for Testing and Calibration Laboratories Accreditation programmes for Testing Laboratories as per ISO/IEC 17025, Calibration Laboratories as per ISO/IEC 17025, Medical Laboratories as per ISO 15189
- ✓ National Accreditation Board for Hospitals and Healthcare providers accreditation programmes for various healthcare providers.
- ✓ Atomic Energy (Radiation Protection) Rules, 2004
- ✓ WHO norms
- ✓ NHM Assessor's Guidebook
- ✓ Framework for implementation of schemes issued by GoI
- ✓ NITI Aayog Reports; and
- ✓ Orders, instructions, circulars issued by GoI and State Government from time to time.

1.11 Consideration of Ayushman Bharat in this report

Government of India (GoI) launched Ayushman Bharat scheme during September 2018 which includes promotive, preventive, curative, palliative and rehabilitative aspects of Universal Healthcare through access of Health and Wellness Centres (HWCs) at the primary level and provision of financial protection for accessing curative care at the secondary and tertiary levels through engagement with both public and private sector. It adopts a continuum of care approach, comprising two inter-related components:

- Creation of Health and Wellness Centres
- Pradhan Mantri Jan Arogya Yojana (PMJAY).

Health and Wellness Centres (HWCs)	• Creation of 1,50,000 HWCs by transforming the existing Sub Centres and Primary Health Centres in February 2018. • Aim to deliver Comprehensive Primary Health Care covering maternal and child health services and non-communicable diseases, including free essential drugs and diagnostic services.
PM-JAY	• Aims to provide a cover of ₹5 lakh per family per year for secondary and tertiary care hospitalisation across public and private empanelled hospitals in India. • Over 10.74 crore poor and vulnerable entitled families (approximately 50 crore beneficiaries) are eligible for these benefits. • Provides cashless access to healthcare services for the beneficiary at the point of service, that is, the hospital. • Benefits of the scheme are portable across the country i.e., a beneficiary can visit any empanelled public or private hospital in India to avail cashless treatment. • Services include approximately 1,387 procedures covering all the costs related to treatment, including but not limited to drugs, supplies, diagnostic services, physician's fees, room charges, surgeon charges, OT, and ICU charges *etc*. • Public hospitals are reimbursed for the healthcare services at par with the private hospitals.

The details of HWCs and PMJAY are given in **Chapters 5** and **7** of this Report.

1.12 Initiatives of the Government of Karnataka

The Government of Karnataka implemented three schemes - *Arogya Kavacha*, *Arogya Sahayavani* and *e-Sanjeevani* for the benefit of the people of the State.

Arogya Kavacha (108 Emergency Service) *– Arogya Kavacha*-108 Emergency services commenced in the State on 1 November 2008 by HFW under a Public Private Partnership with GVK Emergency Management Research Institute (EMRI). The role and mission are to save lives by providing a comprehensive 'Emergency Response Service' to those in Medical, Police or Fire emergencies, through a single integrated number - 108. This scheme is operated 24x7 throughout the year with a fleet of 711 equipped ambulances (552 Basic Life Support and 159 Advanced Life Support) and is available across the length and breadth of the State. During the period 2017-18 to October 2022, 46.29 lakh persons had availed the 108 service.

e-Sanjeevani - During 2020-21, telemedicine service was implemented using *e-Sanjeevani* application developed by Centre for Development of Advanced Computing with the objective to provide specialised, quality medical advice for patients, to monitor and follow up on patient condition and to reduce waiting time in specialised healthcare. There are two applications for teleconsultation *viz*.,

e-sanjeevani.in - Doctors working in primary HIs can consult specialists in hub centres (district hospitals) of the respective districts and

e-sanjeevaniopd.in - Through this application the patient can directly call the doctor and can get a general/specialist consultation. The application enables free -of-cost, safe and structured video-based clinical consultations between a doctor and a patient.

This initiative aimed at providing free healthcare services to people even in remote areas has helped a large number of people especially during the time of COVID-19 pandemic. So far 60.47 lakh patient consultations have been carried out in the State. Karnataka stands second in the number of *e-sanjeevani* consultations after Andhra Pradesh in the country.

1.13 Acknowledgement

Audit acknowledges the cooperation of the State Government including the Principal Secretary, Heath and Family Services; the Principal Secretary, Medical Education and the Principal Secretary, Urban Development Department. Audit also appreciates the assistance provided by the field functionaries of these departments for smooth conduct of the Audit.

1.14 Past Audits

This office conducted PAs on the following topics:

(i) PA on Procurement and distribution of drugs and chemicals for the period 2007-08 to 2011-12 (*Para 2.1 of Report No. 2 of 2013*). The Public Accounts Committee (PAC) discussed the PA during the period September 2015 to April 2016 and placed (August 2016) its report containing the recommendations.

(ii) PA on Health care facilities in State Sector Hospitals including Autonomous and Teaching Hospitals covering the period 2010-11 to 2015-16 (*Para 2.1 of Report No. 1 of 2016*). This report is yet to be discussed.

(iii) PA on *Arogya Kavacha* – 108 Project for the period 2014-15 to 2018-19 (*Para 2.1 of Report No. 3 of 2020*). The PAC discussed this report during May 2022 and is yet to give its recommendations.

1.15 Audit Findings

This report has been structured keeping in mind the major components of healthcare *i.e.*, sufficiency of funding in health sector, availability of infrastructure, drugs, equipment and Human Resources, *etc*. Audit findings relating to the identified components and the factors that contribute towards their achievement have been discussed in detail in the succeeding chapters.

Chapter 2	Human Resources
Chapter 3	Healthcare services
Chapter 4	Availability of Drugs/Medicines, Equipment, and other Consumables
Chapter 5	Healthcare Infrastructure
Chapter 6	Adequacy of funds for the Healthcare Sector
Chapter 7	Implementation of Centrally Sponsored Schemes
Chapter 8	Adequacy and effectiveness of the regulatory mechanisms
Chapter 9	Sustainable Development Goal – 3

Chapter - 2
Human Resources

Chapter - 2: Human Resources

The State Government's manpower norms fell short of the IPHS standards, particularly for hospitals with over 300 beds, where staffing requirements were not specified. There was a lack of systematic analysis to revise staff numbers, with no action plan to address identified gaps. Vacancies for Doctors, Nurses, Paramedics, and others ranged from 29 *per cent* to 53 *per cent*, with significant disparities across different hospital tiers under HFWD. Doctor shortages were particularly pronounced in tertiary care facilities. AYUSH hospitals faced an overall vacancy of 59 *per cent*, raising concerns about service quality.

2.1 Assessment of Human Resources

As per KIPHP 2017, the Government shall review from time to time, the norms, and standards for human resources. Adequate manpower in medical services is a critical component having a direct bearing on patient care. The scope of the policy stipulates robust human resources management in terms of size, composition, and distribution in the public HIs.

Audit however, observed that the State Government had not taken up periodic assessments for revision of manpower and no action plan was prepared to address the gap. The State had approved norms for staff for various categories of medical institutions in October 1980 which was revised only in July 2014. The State, however, did not adopt IPHS norms.

Comparison with IPHS norms showed the following:

- The sanctioned strength under doctors, staff nurses and lab technicians were less than the essential number as per IPHS norms.
- There was no sanctioned post of Dietician and Rehabilitation Therapist in any of the HIs as per IPHS norms.
- There was no sanctioned post of Dermatology Technician, Cyto-technician, Audio metrician and Counsellor in DHs as per IPHS norms.
- The State had not prescribed the staff requirement for hospitals with more than 300 beds.

The comparison of State norms with IPHS norms is detailed in **Appendix 2.1**. It could be seen that the assessment was not realistic. Further, the HIs (District level and Taluk level Hospitals) had less sanctioned strength as per IPHS norms with regard to the main manpower (doctors/nurses/paramedics) other than the management and supporting staff. There are 82 sanctioned posts as per State norms whereas IPHS guidelines recommend 122 in addition to the three desirable posts for Taluk Level Hospital (up to 100 bedded). There was a shortage of about 45 *per cent* and 53 *per cent* in respect of doctors/specialists and nurse cadres respectively in comparison[4] with the IPHS in THs.

[4] Comparison has been done only for THs due to uniformity in sanctioned beds.

2.2 Availability of Human Resources in the Health Departments

An organisation needs to deploy and utilize its available manpower effectively and optimally to achieve its purpose. This can be done through manpower planning to ensure that the right number and the right kind of people are placed for efficient and effective working of the system. Audit analysed the availability of the staff for the efficient functioning of the healthcare system under all systems of medicines across the State and the details are as depicted in **Table 2.1.**

Table 2.1:Status of the manpower position in Government Health Departments

Department Name	Sanctioned Strength	Working Strength	Vacant Posts	Vacancy Percentage
Department of Health and Family Welfare	69,921[5]	37,940	31,981	46
Department of Medical Education	27,533	16,473	11,060	40
Department of AYUSH	4,380	1,803	2,577	59
ESIC	3,191	1,331	1,860	58
Department of Drug Controller	786	444	342	44
Karnataka State Medical Supplies Corporation Ltd.	96	46	50	52
Total	**1,05,907**	**58,037**	**47,870**	

Source: Data furnished by the Commissionerate/Directorates -January 2024

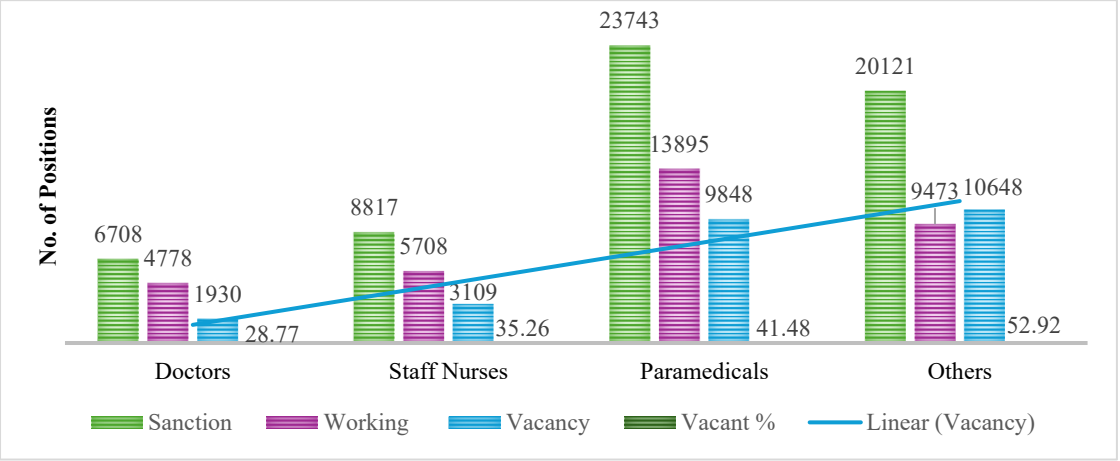
As could be seen from the above, there was a shortage of manpower ranging from 40 *per cent* to 59 *per cent* in Government HIs which could affect the quality of the health services in the State.

2.2.1 Availability of staff in various posts under Department of Health and Family Welfare

IPHS guidelines prescribe the norms for availability of requisite human resources in primary and secondary healthcare institutions. However, the State Government did not adopt the IPHS norms for sanction of posts for these institutions. The status of the sanctioned and working strength in the Department of Health and Family Welfare in the State is shown in **Chart 2.1**.

[5] inclusive of staff related to clinical (doctors, nurses, paramedics, technicians *etc*.) and non-clinical services (accounts, housekeeping, drivers, *etc*.)

Chart 2.1 Vacancy Position[6] in Department of Health and Family Welfare



Source: Information furnished by the Department

Analysis of availability of staff under each system of medicine in the HFWD revealed that the availability of doctors was around 71 *per cent* of the sanctioned strength. And in respect of supporting staff *viz*., staff nurses, paramedics and others, the availability of staff was around 47 to 65 *per cent* of the sanctioned strength.

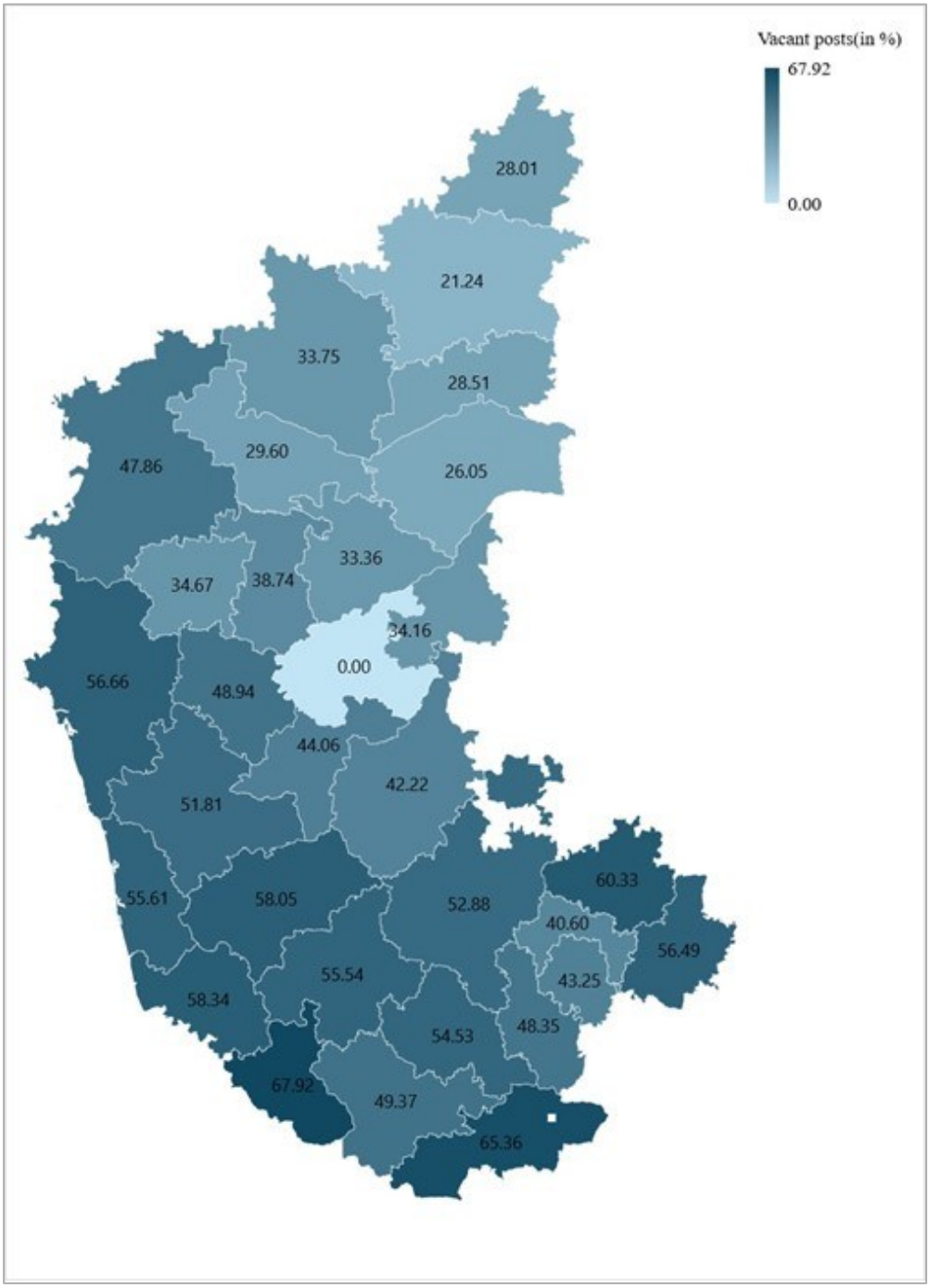
2.2.2 Distribution of available manpower in Department of Health and Family Welfare

As against the sanctioned strength of 69,921 posts across the State under all categories of staff under HFWD, 31,981 (46 *per cent*) posts remained vacant (January 2024). The status of manpower positions of specific posts in the HFWD is given in **Appendix 2.2.**

The vacancy position was significantly high in the districts of Kodagu (68 *per cent*), Chamarajanagar (65 *per cent*), Chikkaballapura (60 *per cent*) and Dakshina Kannada (58 *per cent*). District-wise vacancy position of all categories of staff is shown in **Figure 2.1**[7].

[6] As of January 2024.
[7] District Vijayanagara (carved out of District Ballari) was formed during 2021, the number of HIs in that district were shown in Ballari. Therefore, there is depiction of 0 in that district.

Figure 2.1: District wise vacancy position (in percentage) in Department of Health and Family Welfare



Source: Information furnished by the Department

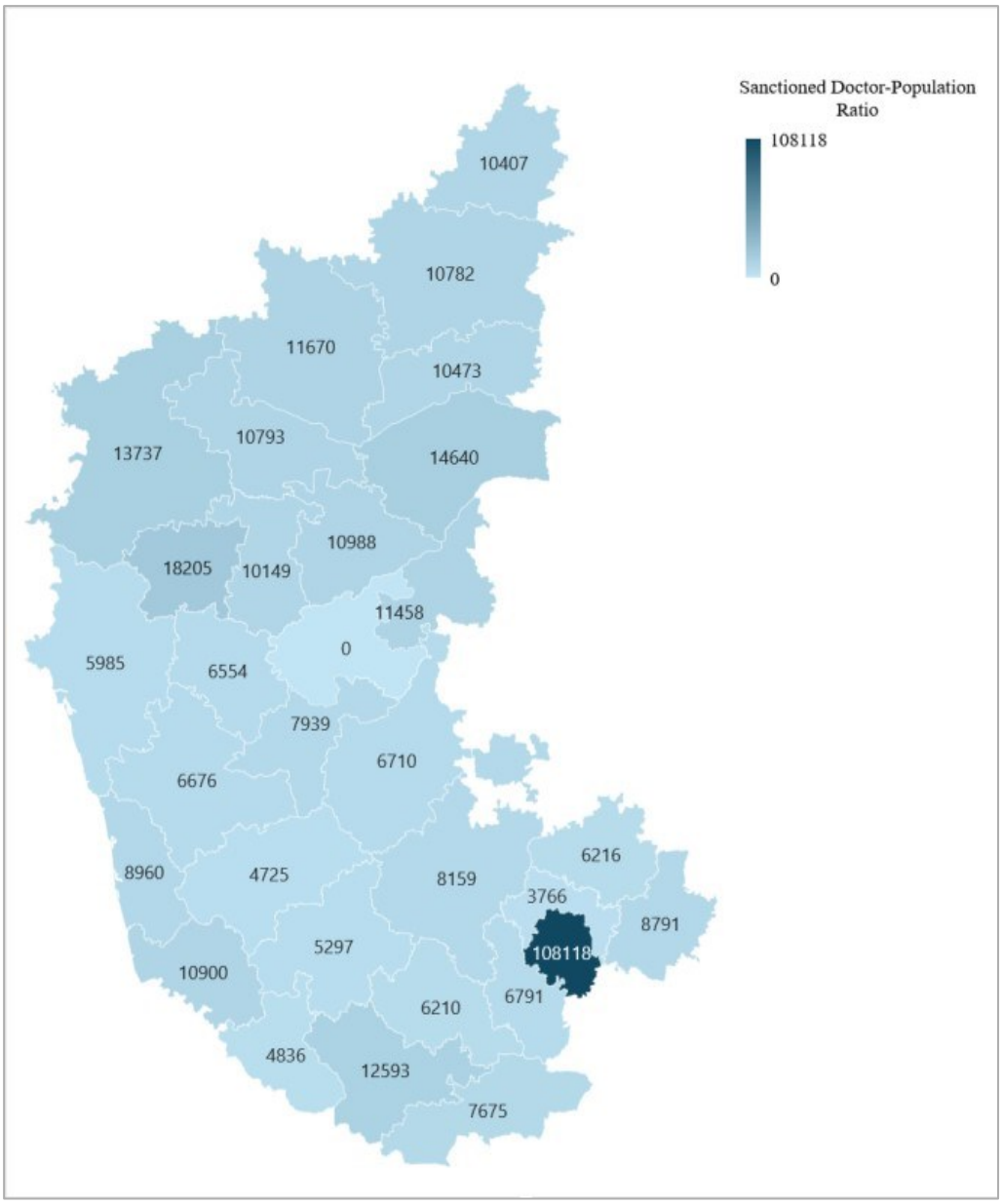
2.2.3 Uneven distribution of doctors at district level

Audit noticed a wide disparity in sanctioned strength of doctors with respect to population across the State as shown in **Figure 2.2**[8]. While in Bengaluru Urban

[8] District Vijayanagara (carved out of District Ballari) was formed during 2021, the number of HIs in that district were shown in Ballari. Therefore, there is depiction of 0 in that district.

district, the ratio was 1: 108118, in Dharwad and Raichur districts, the ratio was 1:18205 and 1:14640 respectively.

Figure 2.2: Sanctioned Doctor to Population Ratio

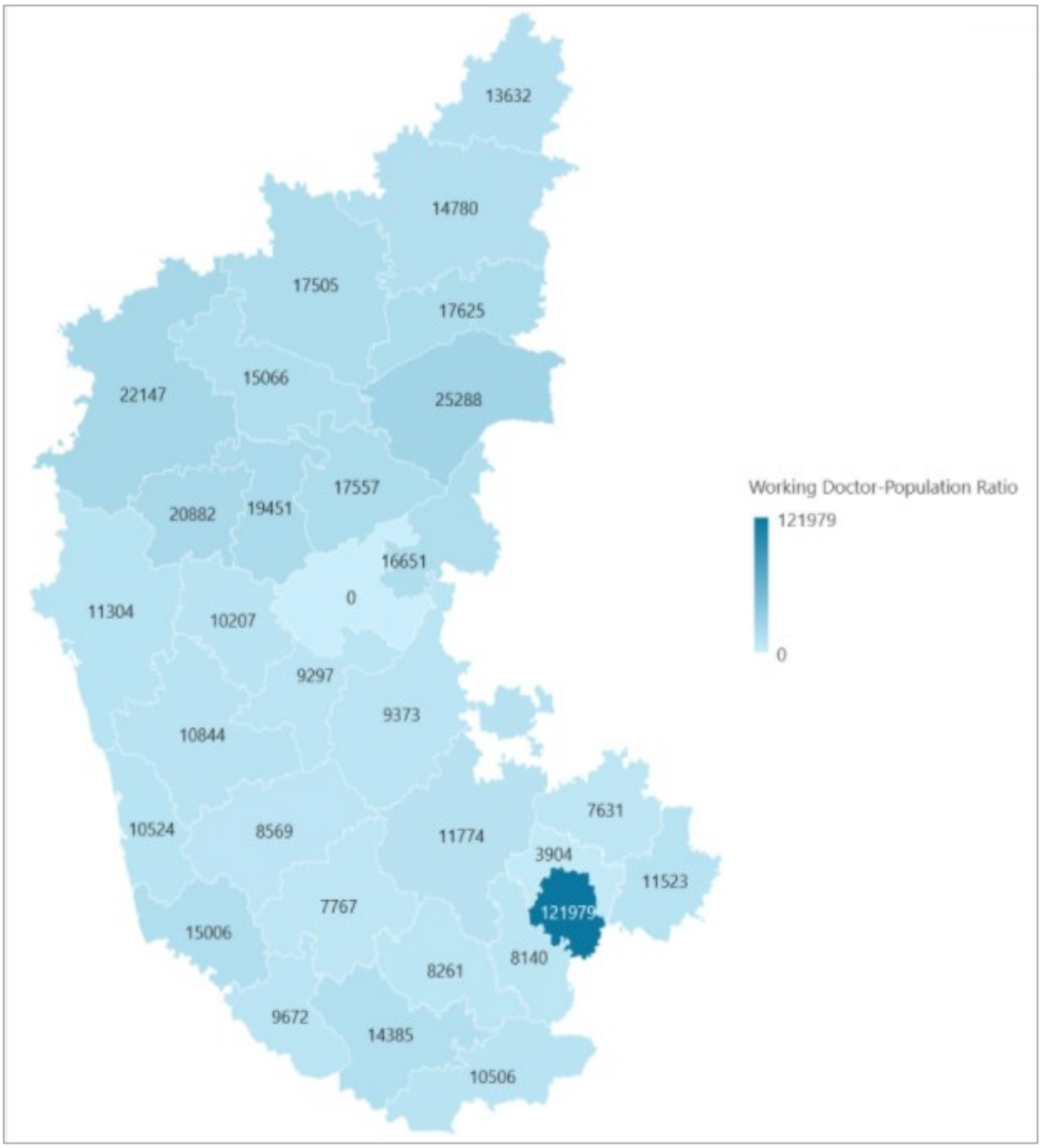


Source: Information furnished by the Department

Audit analysis revealed that ratio of working doctors to population of the districts was asymmetrical as shown in **Figure 2.3**[9]. Doctor to population ratio was most adverse in the Bengaluru Urban (1: 121979), Belagavi (1:22147) and Raichur (1:25288) districts.

[9] District Vijayanagara (carved out of District Ballari) was formed during 2021, the number of HIs in that district were shown in Ballari. Therefore, there is depiction of 0 in that district.

Figure 2.3: Working Doctor to Population Ratio

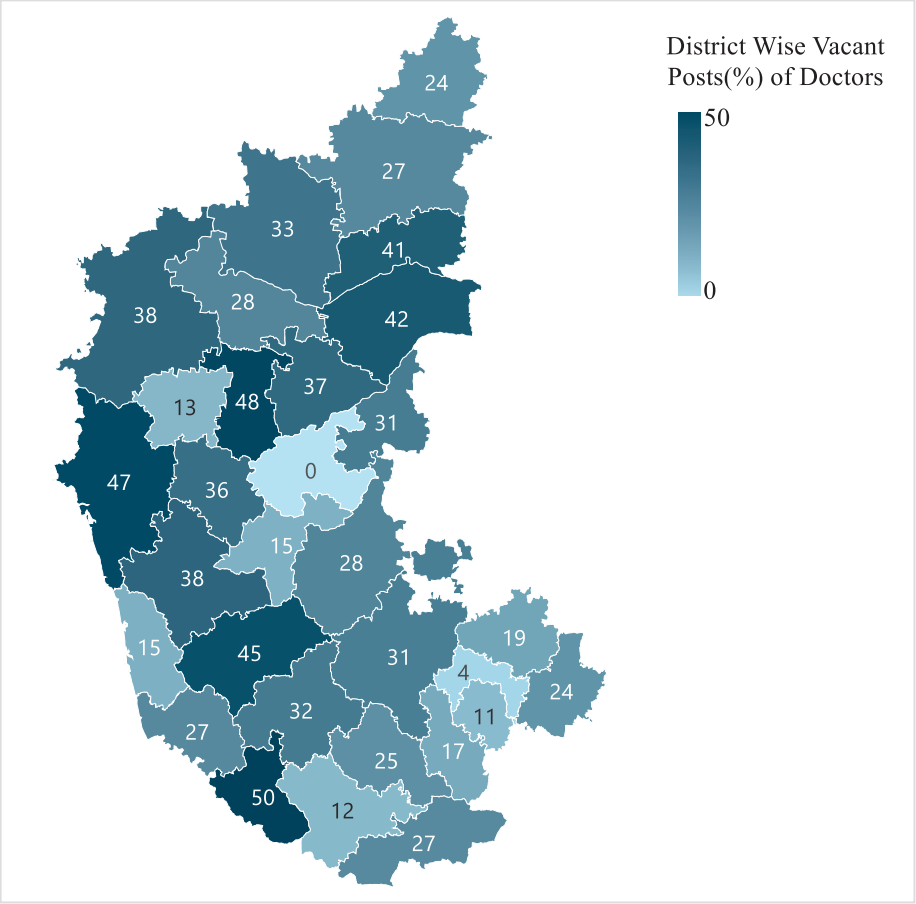


Source: Information furnished by the Department

The vacancy position of doctors in the districts is depicted in the **Figure 2.4**[10]**.**

[10] District Vijayanagara (carved out of District Ballari) was formed during 2021, the number of HIs in that district were shown in Ballari. Therefore, there is depiction of 0 in that district.

Figure 2.4: Vacancy positon of doctors in percentage



Source: Information furnished by the Department

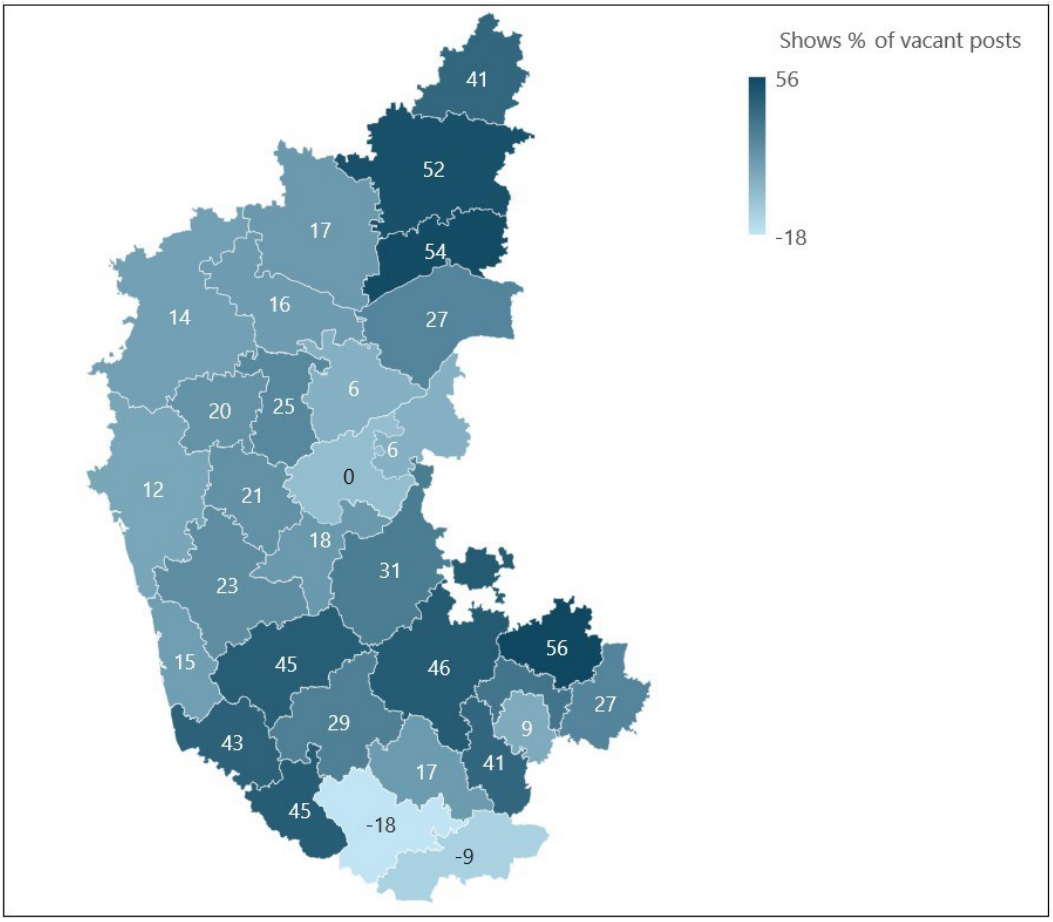
The vacancy positon of the doctors varied from one district to another. The vacancy percentage ranged from four *per cent* in Bengaluru Rural district to 50 *per cent* in Kodagu district. The vacancy in respect of six districts (Chikkmagaluru, Kodagu, Gadag, Raichur, Uttara Kannada and Yadagiri) was more than 40 *per cent*.

2.2.4 Availability of nurses and radiographers/radiologist technicians in hospitals under Department of Health and Family Welfare

For providing healthcare services, role of healthcare support staff *viz*., staff nurses, radiographers/radiologists is very important. A required number of support healthcare staff is necessary to support the day-to-day running of the hospital. Audit analysis revealed that there was a skewed distribution of staff nurses and radiographers in the healthcare facilities coming under the jurisdiction of HFWD. The skewed distribution of radiographers/radiologist technicians is shown in **Figure 2.5**[11].

[11] District Vijayanagar (carved out of District Ballari) was formed during 2021, the number of HIs in that district were shown in Ballari. Therefore, there is depiction of 0 in that district.

Figure 2.5: Skewed distribution of Radiographers/Radiologists technicians in the districts

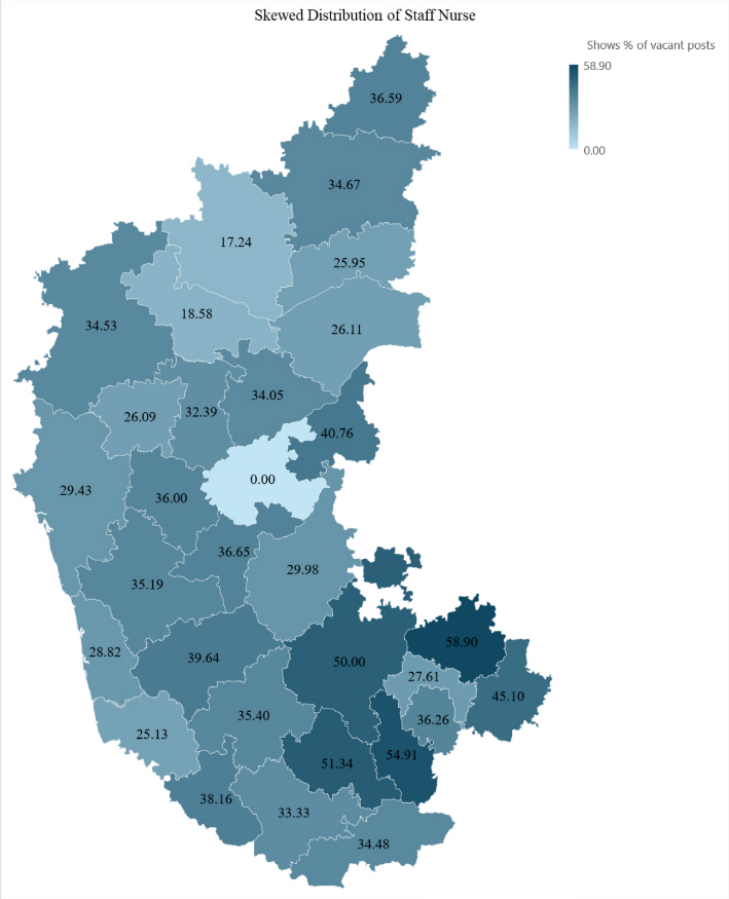


Source: Information furnished by the Department

Radiographers/radiologist technicians were working in excess of their sanctioned strength in Chamarajanagar and Mysuru districts whereas there was a shortage of more than 50 *per cent* in Chikkaballapura, Kalaburagi and Yadagiri districts.

Further Audit observed that there was also a skewed distribution of staff nurses in the districts which is shown in **Figure 2.6.**

Figure 2.6[12] Skewed distribution of staff nurses



Source: Information furnished by the Department

The shortage in nurse cadres ranged from 17.24 *per cent* in Vijayapura district to 58.90 *per cent* in Chikkaballapura district.

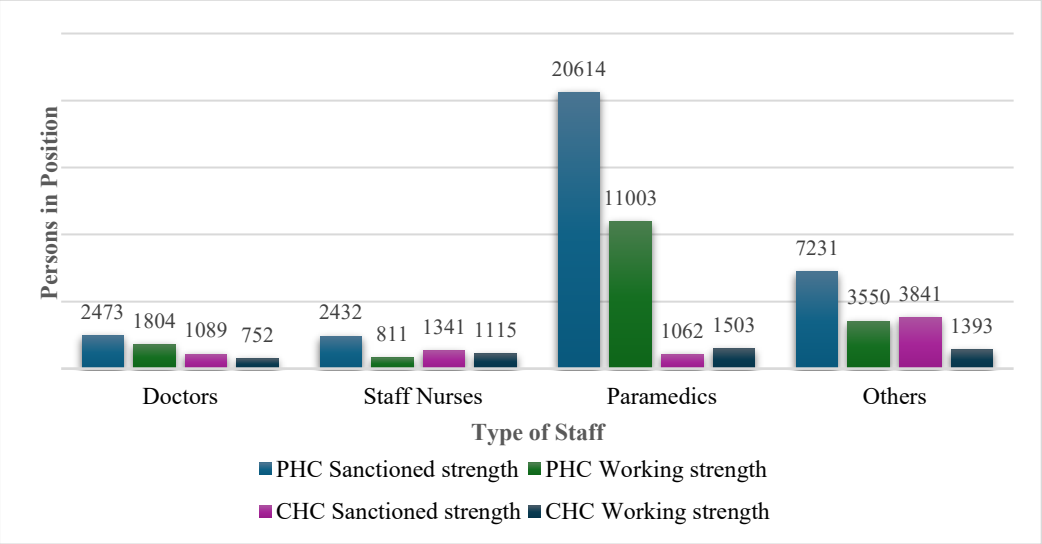
2.3 Availability of Human Resources in the Health Institutions in the State

The delivery of services through the public health sector in India follows the three-tier structure of primary, secondary, and tertiary healthcare services. This covers both rural and urban areas. For providing facilities of comprehensive healthcare services, the healthcare facilities should be equipped with the required number of staff. However, it was observed that there was shortage of manpower in the primary, secondary and tertiary healthcare facilities in the State. The status of the sanctioned strength (Doctors, Nurses, Paramedics and others) and person in position in the primary, secondary and tertiary healthcare facilities in the State is shown in **Chart 2.2.**

The status of the Person in Position against the sanctioned strength in the Health Care Facilities is depicted in the following **Charts 2.2(a)** and **2.2 (b).**

[12] District Vijayanagar (carved out of District Ballari) was formed during 2021, the number of HIs in that district were shown in Ballari. Therefore, there is depiction of 0 in that district.

Chart 2.2 (a): Status of the manpower in the CHCs and PHCs

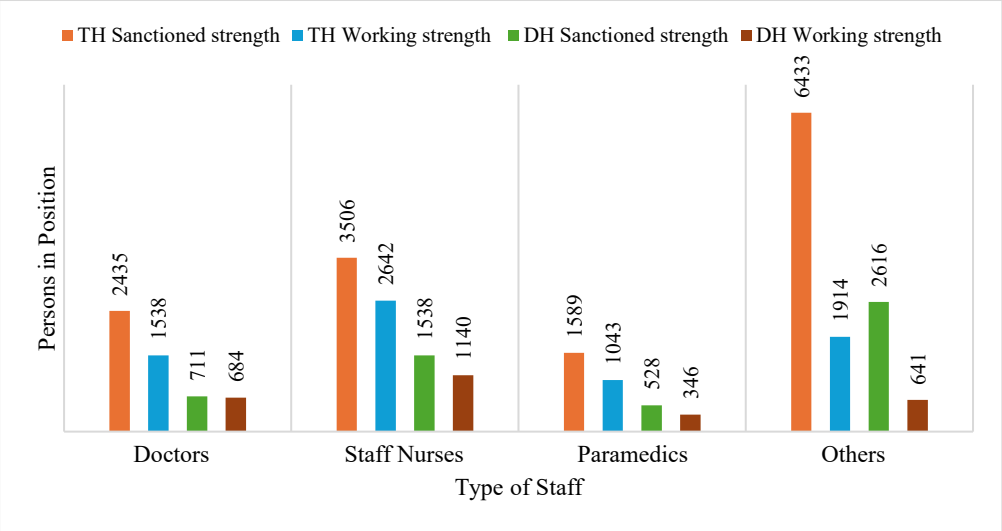


Source: Information furnished by the Department

The percentage of vacancies in respect of doctors was 27 in PHCs and 31 in CHCs; vacancies of nurses were 67 *per cent* in PHCs to 17 *per cent* in CHCs. In the case of others post, the vacancy position was 51 *per cent* in PHCs and 64 *per cent* in CHCs. However, in respect of Paramedics, there was shortage of 47 *per cent* in PHCs and an excess of 42 *per cent* in CHCs.

The percentage of vacancies in Districts and Taluk Hospitals ranged between 04 and 75 in respect of doctors, nurses, paramedics and others as shown in **Chart 2.2(b).** District wise vacancy position of manpower is detailed in **Appendix 2.3**.

Chart 2.2(b): Status of the manpower in the District and Taluk Hospitals



Source: Information furnished by the Department

The manpower position in Tertiary Care Health Facilities (Department of Medical Education) is shown in **Table 2.2.**

Table 2.2: Manpower Position in Department of Medical Education[13]

Category	Sanctioned Posts	Working Strength	Vacant Posts	Per centage of vacant posts
Doctors	6,255	3,908	2,347	38
Nurses	8,947	5,808	3,139	35
Paramedics	2,989	2,063	926	31
Other	9,342	4,694	4,648	50
Total	**27,533**	**16,473**	**11,060**	**40**

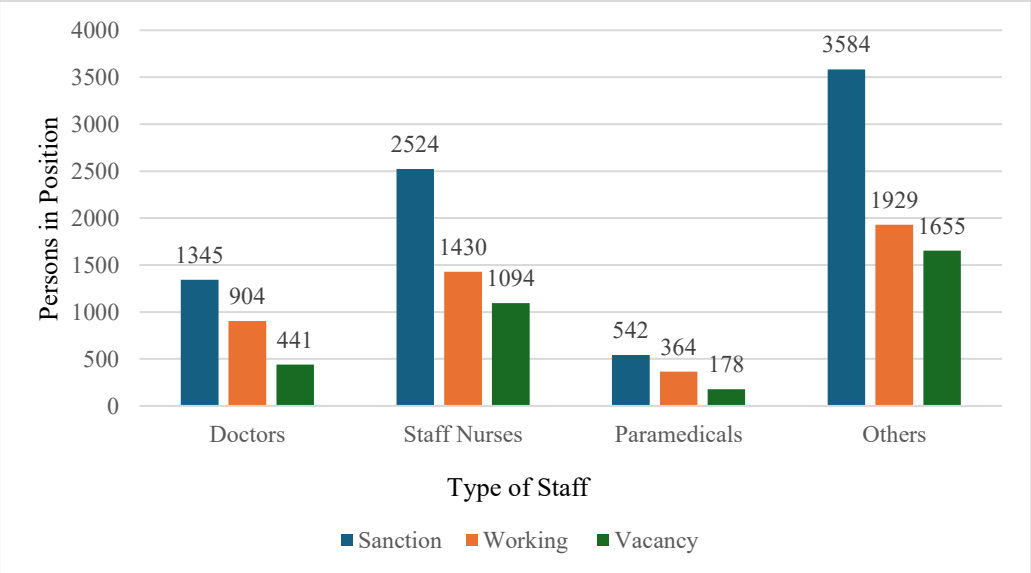
Source:Information furnished by the Department

It could also be seen that the vacancy of doctors at tertiary care institutions was high in comparison with that of primary and secondary care institutions. The vacancy of the nurses in tertiary care institutions was also high.

Further analysis showed that there was overall shortage of 40 *per cent* in all cadres in teaching hospitals and Super Speciality hospitals(SS). The vacancy position ranged from 11 *per cent* (Raichur Institute of Medical Sciences) to 80 *per cent* (Shivamogga Institute of Medical Sciences) under Teaching Hospitals and from eight *per cent* (Institute of Nephro-Urology, Bengaluru) to 80 *per cent* (Rajiv Gandhi Institute of Chest Sciences, Bengaluru) under Superspeciality hospitals.

In the test-checked tertiary healthcare facilities, the shortage of manpower ranged from 33 to 46 *per cent* as shown in **Chart 2.3**.

Chart 2.3 Status of shortage in test-checked tertiary healthcare facilities



Source: Information furnished by the Department

Audit noticed that posts of 441 doctors (33 *per cent*), 1,094 nurses (43 *per cent*), 178 Paramedics (33 *per cent*) and 1,655 others (46 *per cent*) were vacant against the sanctioned strength.

[13] as per the information furnished by 29 HIs as of January 2024.

Analysis showed that the sanctioned strength was not commensurate with the number of OPD and IPD cases which had increased many folds from 7,94,54,696 and 49,97,489 in 2016-17 to 11,66,56,422 and 66,07,943 in 2022-23 respectively in all the HIs under HFWD. The department had also not revised accordingly the sanctioned strength of doctors *vis-à-vis* the caseload.

2.3.1 Human resources under AYUSH

AYUSH (Ayurveda, Yoga, Naturopathy, Unani, Siddha and Homoeopathy) are six alternative systems of medicines prevalent and practiced in India. National Rural Health Mission was launched in 2005 with the stated aim of integrating AYUSH practitioners into national health programs, including in primary healthcare (AYUSH medical officers at community health centres, paraprofessionals, *etc*.) and to provide support for research in the field to complement the services, the required manpower needs to be recruited. The status of manpower in the AYUSH HIs in the State is shown in **Table 2.3.**

Table 2.3: Status of the manpower in the AYUSH Institutions

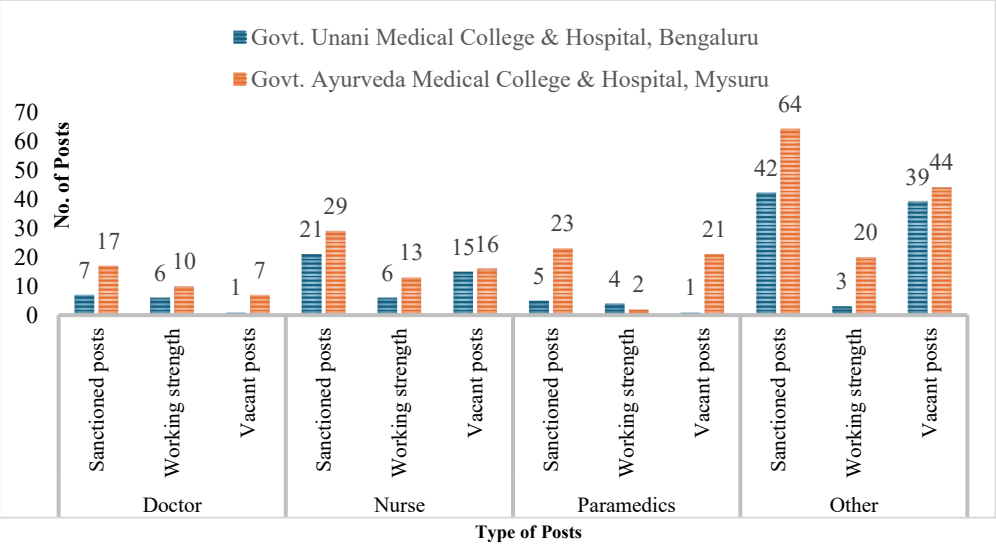
Name of the post	Sanctioned posts	Working strength	Vacant posts	Percentage of vacant posts
Doctor	1,343	835	508	37.83
Nurse	362	119	243	67.13
Paramedics	554	167	387	69.86
Other	2,121	682	1,439	67.85
Total	**4,380**	**1,803**	**2,577**	**58.84**

Source:Information furnished by the Department

While the overall vacancy was about 59 *per cent*, vacancy position in cadre of nurses, paramedics and others was more than 60 *per cent.* The shortage in manpower could result in the quality of the services provided.

The status of manpower in test-checked AYUSH HIs is shown in **Chart 2.4.**

Chart 2.4: Status of manpower in test-checked AYUSH Health Institutions



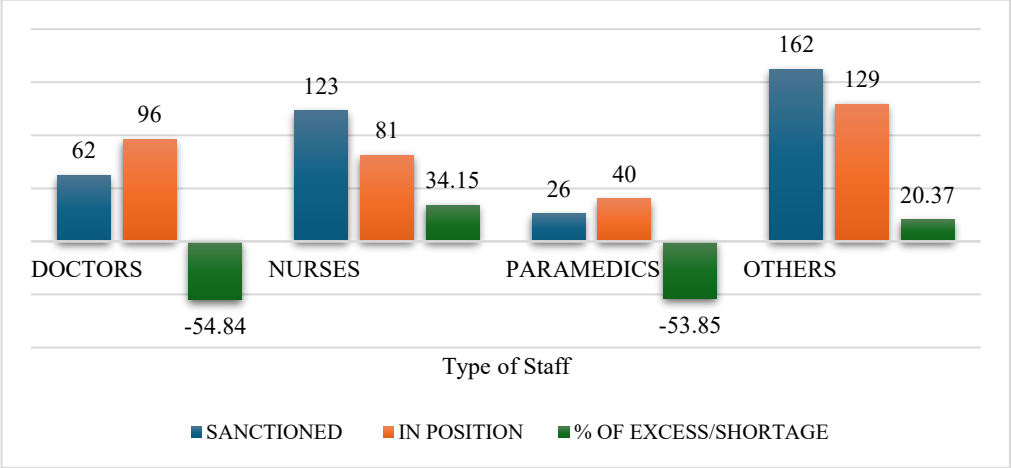
Source: Information furnished by the Department

In the test checked HIs under AYUSH, there was a shortage of 33 *per cent*, 62 *per cent* and 79 *per cent* in respect of doctors, staff nurses and paramedics respectively. The position of manpower in other categories was also short of the sanctioned strength.

2.3.2 Status of Manpower in Health Institutions under Urban Local Bodies.

Urban Local Bodies (ULBs) also provide healthcare services through UHCs. In the State, only Bruhat Bengaluru Mahanagara Palike (BBMP) in Bengaluru Urban District and Hubballi-Dharwad Municipal Corporation (HDMC) in Dharwad District have UHCs mainly maternity homes. The status of men in positions[14] (Doctors, Nurses, Paramedics and Others) as against the sanctioned posts in the HIs under the jurisdiction of ULBs is shown in **Chart 2.5.**

Chart 2.5: Position of staff in Health Institutions under ULBs



Source: Information furnished by the Department

As could be seen from the above, there was excess doctors and paramedics staff, whereas there was a vacancy in cadre of nurses and other supporting staff.

The State Government stated (October 2022) that steps were being taken to fill up the vacant posts by the State and District Health Societies. It further stated that to bridge the gap/vacancy of Medical Offices and specialist under NHM, steps had been taken to depute Post Graduate students for one year of compulsory rural service.

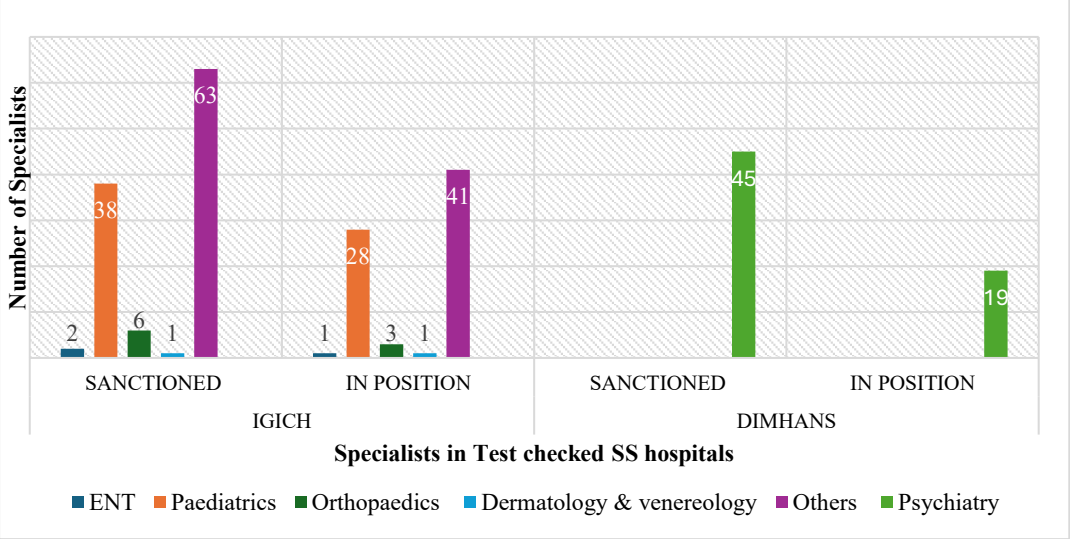
2.3.3 Position of Department-wise manpower in the test checked Health Institutions

A hospital is an institution that is built, staffed, and equipped for the diagnosis of disease; for the treatment, both medical and surgical, of the sick and the injured; and for their housing during this process. To better serve the wide-ranging needs of the patients, there are different departments in a hospital. To provide effective and qualitative healthcare services, the doctors with various specialties are an important part of an HI.

[14] as of May 2023.

The status of the availability of the specialists and other important staff in the test checked HIs are shown in the **Charts 2.6** to **2.8** below:

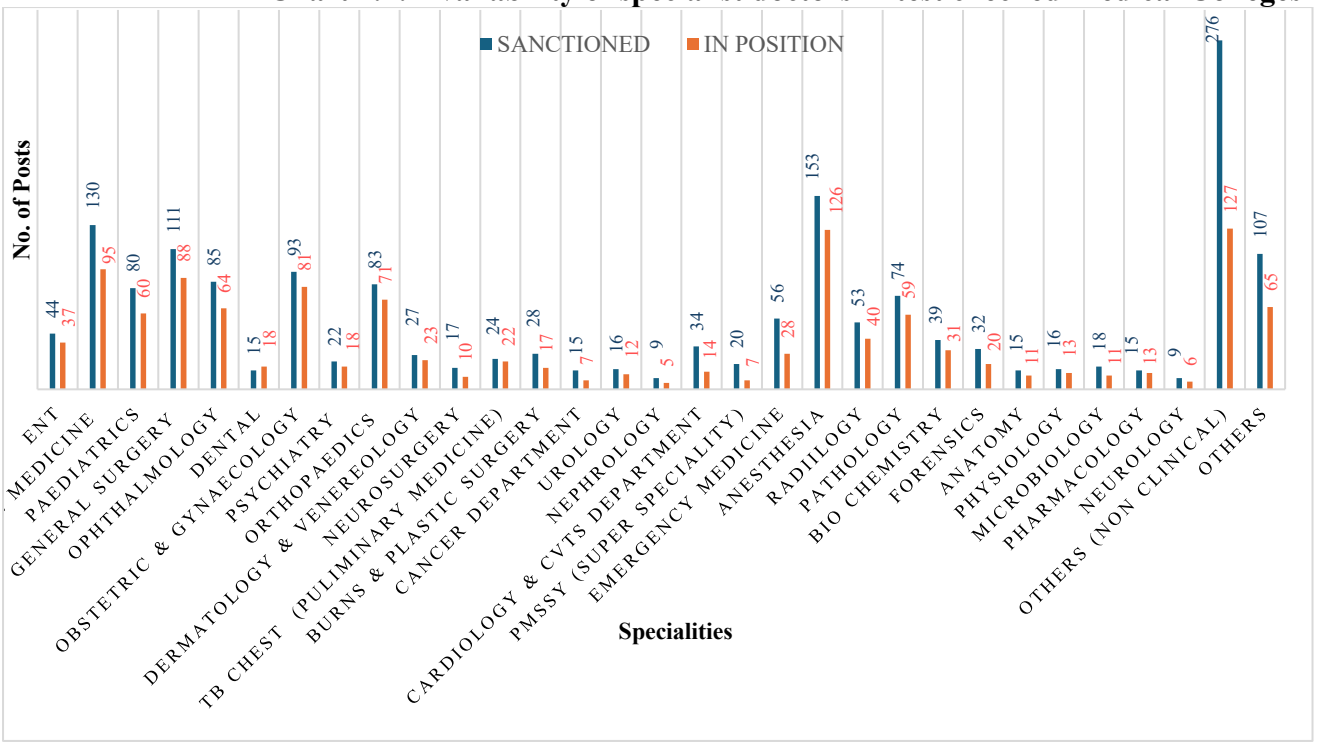
Chart 2.6: Availability of specialists in test checked Super Speciality Health Institutions



Source: Information furnished by the Department

Analysis showed that there was a shortage of 26 *per cent*, 50 *per cent* and 35 *per cent* in the departments of paediatrics, orthopedics, and others respectively in Indira Gandhi Institute of Child Health (IGICH) and a huge shortage (58 *per cent*) of psychiatrists in the Dharwad Institute of Mental Health and Neurosciences (DIMHANS).

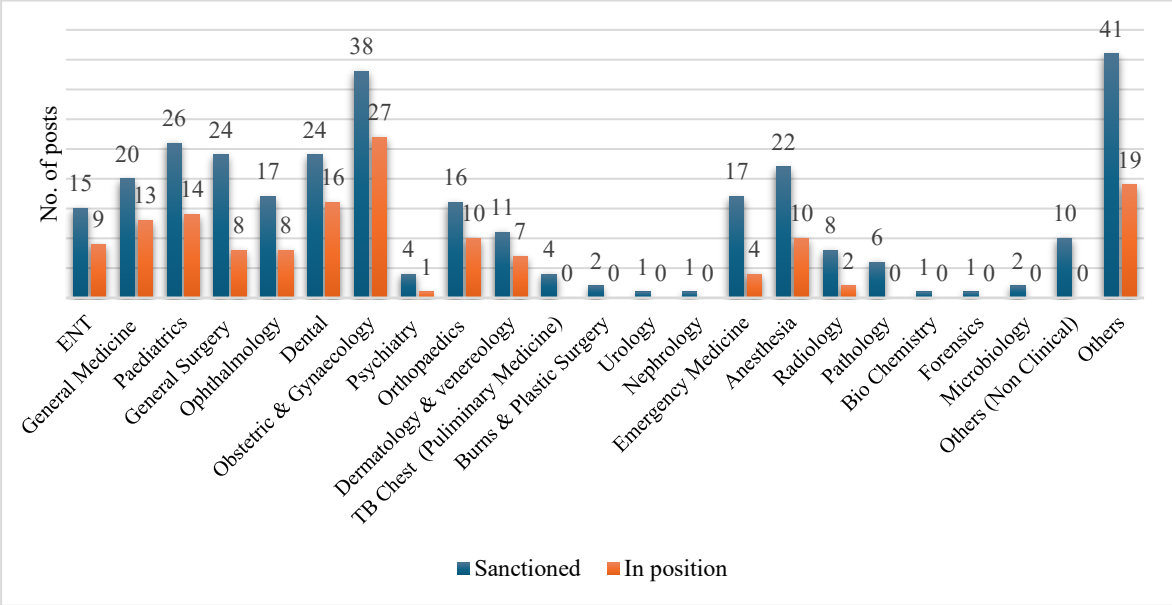
Chart 2.7: Availability of specialist doctors in test checked Medical Colleges



Source: Information furnished by the Department

The staff position in the hospitals attached to the Medical Colleges(MC) also witnessed huge shortage of doctors/specialists in oncology, burns and plastic surgery, paediatrics, general medicine, urology, neurology and cardiology departments whereas they were an excess in dental department. The shortage of these doctors will overload the available doctors with patients which could impact delivery of quality services.

Chart 2.8: Availability of doctors/specialists in test checked District and Taluk Hospitals



Source: Information furnished by the Department

The vacancy of doctors/specialists and other staff in District and Taluk level HIs ranged from 29 *per cent* to 100 *per cent*. There were no staff available in respect of the services such as burns, microbiology, forensics, biochemistry, dermatology, urology, nephrology *etc*. The shortage in services (general surgery, ophthalmology, psychiatry, emergency medicine, anaesthesia, and radiology) were more than 50 *per cent.*

The overall status of the availability of the specialist doctors against the sanctioned strength in the districts is given in the **Appendix 2.4.**

2.3.4 Drugs Controller Department

Drugs Controller Department is responsible for the quality, safety, efficacy and rational use of drugs at controlled prices, monitoring the collection and supply of safe blood and blood components, scrutinising the misleading advertisements to safeguard the interests of the unwary people. Officers of this department also draw the samples of Drugs and Cosmetics for the purpose of test or analysis to ascertain quality. To ensure the quality assurance of the essential drugs/medicines and consumables in time, the sufficient staff is required. However, it was observed that there was huge vacancy in cadre of drugs inspector (88 *per ce*nt), lab supervisor (56 *per cent*) and lab technician (75 *per cent*). The position of manpower in the Drugs Controller Department is shown in **Table 2.4.**

Table 2.4: Human Resource under Drugs Controller Department

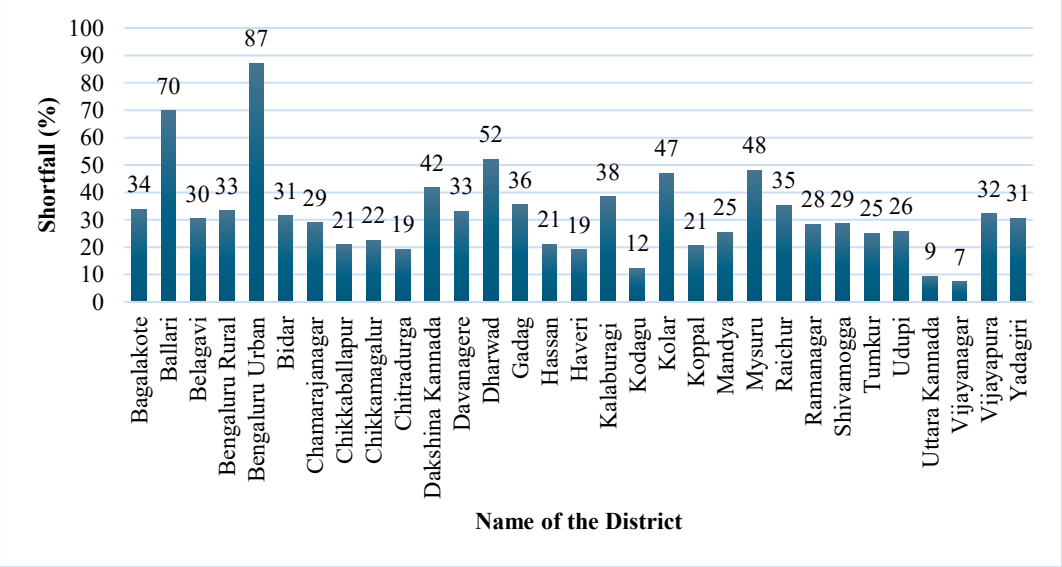
Post Name	Sanctioned Posts	Working Strength	Vacant Posts	Percentage of Vacant Posts
Drugs Controller	1	1	0	0
Additional Drugs Controller	1	1	0	0
Principal Scientific Officer	1	1	0	0
Deputy Drugs Controller	13	13	0	0
System Analyst	1	0	1	100
Assistant Drugs Controller	60	55	5	8.33
Chief Scientific Officer	19	17	2	10.53
Drugs Inspector	112	13	99	88.39
Junior Scientific Officer	113	109	4	3.54
Gazetted Assistant	6	5	1	16.67
Lab Supervisor	18	8	10	55.56
Lab Technician (Drugs)	28	7	21	75.00
Lab Technician	10	0	10	100
Superintendent	33	25	8	24.24
Statistician	1	0	1	100
First Division Assistant	69	52	17	24.64
Second Division Assistant	46	35	11	23.91
Lab Attender	56	23	33	58.93

Source: Information furnished by the Department

2.3.5 Availability of ASHA workers

Accredited Social Health Activist (ASHA) is a health worker in the community who creates awareness on health and its social determinants and mobilize the community towards local health planning and increased utilisation and accountability of the existing health services. Guidelines on ASHA of NHM prescribe one ASHA per 1,000 population. Audit analysed the availability of ASHAs and noticed shortage in the cadre in all the districts as shown in **Chart 2.9**.

Chart 2.9 District wise shortfall (*per cent*) in availability of ASHAs



Source: Information furnished by the Department

2.3.6 Recruitment of manpower

State Government recruited manpower for different cadres in the HIs in the HFWD. The recruitment done for the period 2016-17 to 2022-23 is shown in **Table 2.5**.

Table 2.5 Recruitment of manpower (Health and Family Welfare Services)

Financial Year	Number of employees recruited
2016-17	1,530
2017-18	19
2018-19	2,635
2019-20	883
2020-21	1,048
2021-22	0
2022-23	0
Total	**6,115**

Source: Information furnished by the Department

Against the vacancy position of 31,981, only 6,115 (19 *per cent*) manpower was recruited for the period 2016-23. The cadre wise recruitment of manpower during 2016-17 to 2022-23 is shown in **Table 2.6.**

Table 2.6: Recruitment of manpower cadre wise

Post	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
Staff Nurse	702	0	977	883	0	0	0	2,562
Medical Officer	0	0	0	0	1,048	0	0	1,048
Multipurpose Health Worker (M)	491	0	1,615	0	0	0	0	2,106
Pharmacist	197	0	0	0	0	0	0	197
Lab Technician	83	19	0	0	0	0	0	102
Ophthalmic Assistant	57	0	43	0	0	0	0	100

Source: Information furnished by the Department

As could be seen from the above chart, recruitment was done mainly in the cadre of doctors, staff nurse, pharmacist and multipurpose health workers. The recruitment in these cadres did not commensurate with the shortage. No recruitment was done in other cadres such as medical lab technologist, OT attendant and radiographers *etc*., during the years 2016-17 to 2022-23. The status of manpower recruited in the Department of Medical Education is shown in **Table 2.7**.

Table 2.7 Recruitment of Manpower

Financial Year	Number of Employees recruited[15]
2016-17	1,648
2017-18	1,387
2018-19	755
2019-20	1,257
2020-21	720
2021-22	984
2022-23	1,143
Total	**7,894**

Source: Information furnished by the Department

Audit observed that out of total vacancy of 11,060; recruitment was done for 7,894 positions during the year 2016-17 to 2022-23.

2.4 Asymmetric distribution of staff

Adequate and qualified manpower is a *sine qua non* for the empowerment of HIs to deliver quality services to the patients. IPHS envisage that doctors and nurses should be available round the clock in IPD to provide due medical care to the inpatients. However, uneven distribution in deployment of the staff *vis-à-vis* the sanctioned strength was observed in the test checked HIs. Audit noticed in the test checked HIs that:

- DH, Kolar had a shortage of doctors of four *per cent* and K C General Hospital on the other hand had excess doctors of 25 *per cent*.
- TH, HD Kote had a shortage of doctors (13 *per cent*) and excess of other staff (seven *per cent*). TH, K R Puram had excess of doctors (19 *per cent*) and shortage of other staff (39 *per cent*).
- TH Navalgund had a shortage of doctors (57 *per cent*) and excess of staff nurses (10 *per cent*). DH, Ballari had excess of doctors (21 *per cent).*
- Similarly, while IGICH, Karnataka Institute of Medical Sciences (KIMS) Hubballi, KC General Hospital, Mysuru Medical College and Research Institute (MMCRI), Mysuru, Bangalore Medical College and Research Institute (BMCRI), Bengaluru and DH, Kolar had shortage of paramedical staff, DH, Ballari, THS, Kalaghatagi, KR Puram, Kudligi and Yelahanka had excess staff.
- In PHC Bettadapura, there was shortage of one doctor whereas there was excess in PHC Annigeri. In respect of nurses, there was an excess in PHC Addagal, shortage in PHC Kittur.
- In the HIs under the jurisdiction of ULB, there was excess of doctors and nurses in BBMP HIs Sirsi Road and Halasuru respectively, while deficiency in the number of nurses and other staff was noted in HDMC health centre, Dharwad.

Due to the uneven distribution and non-deployment of excess staff to staff deficient HIs, the required services were not functional in the test checked HIs as detailed in

[15] as per the information furnished by 29 HIs.

Appendix 2.5. The deployment of staff was also not commensurate with the increase of both in-patients and outpatients.

Further, it was observed that IGICH had 583 staff members working against the 205 sanctioned posts. The institution hired/outsourced 378 staff as per the approval of the Finance Committee/Governing Council of the Institute and no approval of the Government was obtained. Though, the salaries of the entire staff, including contractual staff, were being paid from the Government grants. Thus, there was no internal control mechanism to scrutinize the proposal sent by the HIs at the Government level.

Attender of the patient helping the doctor in the treatment of the patient at IGICH, Bengaluru.

2.5 Operation of posts without sanction

The State Government upgraded (November 1980) PHC, HD Kote to General Hospital with bed strength of 50 and 23 sanctioned posts. The pre-existing PHC had 20 sanctioned posts like Block Health Officer, Senior/Junior Female and Male Health Assistants *etc*., with salaries funded from the Zilla Panchayat budget. However, upon upgrading the cadre posts, the earlier posts were to be transferred to needy hospitals that had these sanctioned posts, which was not done. The hospital was further upgraded (January 2007) to 100 bed Taluk Hospital and an additional 51 posts were sanctioned. These cadres were not included in additional posts. Consequently, these posts continued to be in operation without sanction. While 15 of these staff retired, five of them continue to draw salary and allowances in the hospitals from out of the State budget.

2.6 Diplomate de National Board (Course)

To encourage and support the State and UT Governments in developing and adopting innovative solutions to improve healthcare services, delivery systems addressing the shortage of specialists and strengthening district hospitals to provide quality care, NHM started programme for higher courses. 14 District/ General Hospitals were identified for starting Diplomate de National Board (DNB) Courses, which also involves procurement of infrastructure[16] like equipment, furniture etc., by these Hospitals/Institutes to help in augmenting the shortage of specialists serving in hospitals of HFW.

The DNB course requires that one of the faculty members from a Medical College serve as an adjunct faculty and Post Graduate teacher in each of the Specialty under DNB programme. It was also required to have a tie up with a Medical College for utilizing facilities for Basic Science teaching, Research Methodology, Thesis Guides, *etc*., in the Medical College.

[16] General Medicine, General Surgery, OBG and Paediatric.

Audit observed in test check cases, the DNB courses in three DHs (Chikkamagaluru, Bagalakote and Vijayapura) were not approved even after incurring expenditure of ₹128.47 lakhs towards creation of infrastructure (equipment, furniture and other items) as illustrated in **Table 2.8.**

Table 2.8: Audit observation on DNB courses

(₹ in lakhs)

Name of the Hospital	Courses Applied but not approved	Expenditure incurred on infrastructure
DH Chikkamagaluru	General Medicine, General Surgery, OBG and Pediatric.	52.00
DH, Bagalakote	General Surgery, Pediatrics and OBG	73.95
DH, Vijayapura	Pediatrics, OBG, General Surgery, General medicine.	02.52
Total		**128.47**

Source: Information furnished by the Department

The courses applied by the three HIs were not approved by the National Board due to non-availability of qualified faculty members/consultants as per norms and non-compliance with the accreditation requirements. In DH, Chikkamagaluru, the procurement was made after the date of rejection from National Board of Examination (NBE), New Delhi.

Thus, inaction on the part of the HIs to take necessary actions on time resulted in loss of opportunity of having specialist doctors for the healthcare services.

2.7 Non-recruitment of Biomedical Engineer

According to IPHS norms, there shall be one post for Biomedical Engineer in the hospitals with a bed strength of 100 and more. Biomedical Engineer is specialised in management, maintenance, supervision of external service provider, needs assessment, planning, and user training (as per WHO).

None of the test checked HIs (DHs/THs) had any such sanctioned posts, nor did they recruit any Biomedical Engineer/Bio-Medical Technician, except in Hospitals attached to the Medical Colleges, for ensuring proper maintenance and up-keep of medical equipment.

The State Government stated (October 2022) that it had biomedical equipment maintenance and management through outsource from 2018 onwards. Further, two Biomedical engineers for each district had been hired under NHM.

Audit observed that the Biomedical equipment maintenance and management was yet to be taken off completely as discussed in **Para 4.5.6.**

2.8 Training for use of medical equipment

Training of technical staff is critical for the safety of patients and users, and to deal with routine repairs and maintenance and calibration of equipment. Accordingly, training is to be given by manufacturers and suppliers. Although procurement, maintenance and utilisation of medical equipment is of specialised nature, only demonstration was arranged by the suppliers at the time of installation to the staff, who are not technically qualified to perform specialised activities related with maintenance. Due to the non-availability of these technicians, special care of these equipment could not be taken, which was evident from the observation on medical equipment remaining non-functional.

The State Government stated that training of technical staff for maintenance of medical oxygen system was rolled out at State level for biomedical engineers.

The reply is specific to training of staff for medical oxygen system and does not address the training of manpower for handling other medical equipment.

2.9 Manpower in Private Hospitals

Manpower in private hospitals in the State could not be assessed due to lack of effective implementation of Clinical Establishment Act as there were no norms or minimum standards for human resource in private hospitals. There exists no system to check and verify the availability of human resources of private HIs and quality health services provided to the public.

Recommendations

1. ***The State Government should consider adopting IPHS norms for assessing the sanctioned strength in Health departments including specialists.***

2. ***The State Government should step up its efforts to expedite recruitment process in order to fill the vacancies in all cadres under health sector.***

3. ***The staff should be posted rationally across the health institutions to address staffing deficiencies, ultimately improving the delivery of healthcare services.***

Chapter - 3
Healthcare Services

Chapter - 3: Healthcare Services

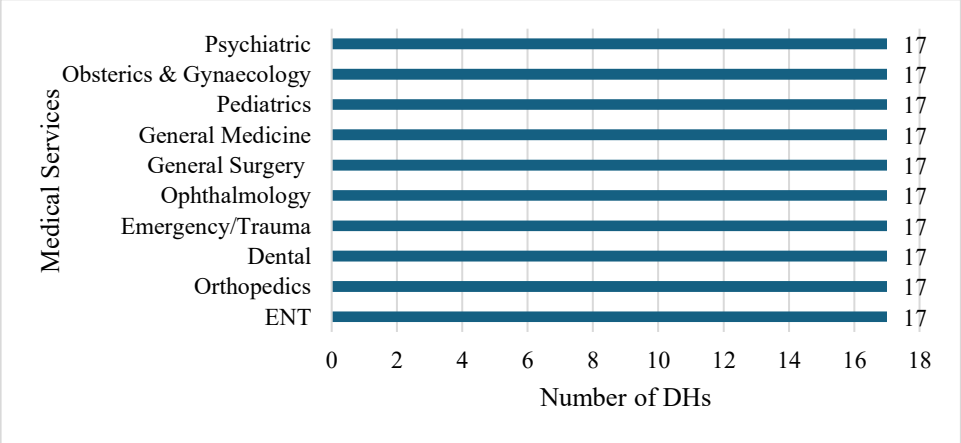
The State Government had not adopted norms/standards prescribed by the Government of India with respect to healthcare services. Doctor availability did not match outpatient load, leading to overcrowding and a higher patient-doctor ratio. OPD facilities faced inequities in registration counters versus patient demand. Shortages of operation theatres, drugs, and equipment were noted in taluk hospitals/CHCs. ICU services were insufficient compared to prescribed bed ratios in 11 out of 16 test checked HIs. Delayed supply of COVID-19 essentials and PPE kits incurred additional expenses. Fire audits were not conducted in any COVID hospitals. Maternity services showed significant deficiencies across antenatal, intrapartum, and postnatal care. Support services were available but operated inefficiently in test checked HIs.

3.1 Outpatient Department Services

The outpatient department of a hospital provides diagnosis and care for patients who do not need to stay overnight. The outpatient department is an important part of the overall running of the hospital. It is normally integrated with the inpatient services and staffed by consultant physicians and surgeons who also attend to inpatients in the wards. Many patients are examined and given treatment as outpatients before being admitted to the hospital at a later date as inpatients. When discharged, they may attend the outpatient clinic for follow-up treatment.

The availability of the OPD services which are essential as per IPHS in the District Hospitals in the State is shown in **Chart 3.1.**

Chart 3.1: Availability[17] of Outpatient services in the 17 DHs in the State



Source: Information furnished by the Department

It can be seen from the above that outpatient services as stipulated in IPHS were available in all DHs. Availability of these OPD services in the test checked HIs is detailed in **Appendix 3.1**.

[17] as of May 2023.

Paediatrics services were not available in THs-Navalgund and Sandur. The other essential services *viz*., Ophthalmology was not available in THs-Kudligi and Sandur; Obstetrics and Gynaecology services were not available in TH Kalaghatagi. Desirable services *viz.,* Psychiatry were provided in THs- Bangarpet, Navalgund, Yelahanka; Dermatology-Venereology were provided in Bangarpet, HD Kote, KR Puram, Periyapatna, Srinivasapura, and Yelahanka.

IPHS requires that all the seven OPD services are to be provided through CHCs. Availability of these essential services in the test checked CHCs is shown in the **Table 3.1**.

Table 3.1: Availability of OPD services in test checked CHCs

Specialty Services (OPD)	Ballari		Bengaluru Urban						Dharwad	Kolar	Mysuru
	Kotturu	Torangallu	Avala-halli	Halasuru	Kengeri	DJ-Halli	Sirsi - Road	Shanthi nagar	HDMC UHC	Gowni palli	Sargur
General Medicine	A	A	NA	NA	NA	NA	A	NA	A	A	NA
General Surgery	NA	NA	NA	NA	NA	NA	A	NA	A	NA	NA
Obstetrics and Gynaecology	NA	A	A	A	A	A	A	A	A	A	A
Pediatrics	NA	A	A	A	A	A	A	A	A	A	A
Emergency care	A	A	A	A	NA	A	A	A	A	NA	A
Dental	A	A	A	A	A	NA	A	NA	A	A	A
AYUSH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Source: Information verified in the test checked HIs as of January 2024.
A- Available, NA- Not Available

OPD services *viz.,* General Medicine was not available in the HIs under ULBs except HI Sirsi Road and Urban Health Centre HDMC, General Surgery was available only in two HIs. Dental Services were available in all the HIs except for HIs at DJ Halli and Shanthinagar. AYUSH services were not available in any of the test-checked CHCs.

3.1.1 Non-availability of specialist consultation in Health Institutions

Audit noticed absence of specialist consultation for outpatients for varying periods in the test checked HIs as detailed in **Table 3.2.**

Table 3.2: Non-availability of OPD Specialist consultation in hospitals for the period 2016-22

Name of OPD service	Period of non-availability of OPD doctor consultation during Audit period		
	SS/ MC	DH/TH	CHC/PHC
General Medicine	Available	2 to 4 years	3 to 5 years
Ophthalmology	Available	1 to 3 years	Not applicable
Skin and VD (Desirable in TH)	Available	4 to 5 years	Not applicable
Surgery	Available	2 years	5 years
ENT	Available	2 years	1 to 2 years
Psychiatric (Desirable in TH)	Available	3 to 5 years	Not applicable
Orthopedic	Available	1 to 3 years	Not applicable
Pediatric	Available	3 to 5 years	4 to 5 years
Obstetrics and Gynaecology	Available	1 to 2 years	3 to 5 years
Dental	Available	Available	1 to 2 years

Name of OPD service	Period of non-availability of OPD doctor consultation during Audit period		
	SS/ MC	DH/TH	CHC/PHC
Urology, Oncology, Plastic surgery, Gastro endocrinology, Nephrology, Neurosurgery and Neurology	3 years	Not applicable	Not applicable

Source: Information verified in test checked HIs.

In DH, Ballari, Psychiatry doctor was not available during 2019-21(2 years) even though 2,271 patients had registered for psychiatric treatment. The General Physician of the hospital treated these patients.

In DIMHANS, three posts of Neurosurgeons had been vacant for the period 2018-21 as such patients were forced to visit other hospitals.

The State Government stated (October 2022) that Telemedicine services were being implemented to address the shortage of specialists. Further efforts were being made to reduce the gap in availability of specialists through recruitment and compulsory deployment of General Duty Medical Officers (GDMOs).

The reply cannot be accepted as the Audit noticed that telemedicine facilities provided in the test checked HIs were not utilised properly. Moreover, telemedicine cannot supplement the requirement of specialists in public HIs.

3.1.2 Outpatient load

The number of outpatients attended in the test checked HIs during the period 2016-17 to 2021-22 is shown in **Table 3.3**.

Table 3.3: Number of outpatients attended in test checked hospitals

(numbers in lakh)

Year	No. of outpatients (in lakhs)		Increase in *per cent* (Year over Year)	No. of outpatients (in lakhs)		Increase in *per cent* (Year over Year)
	SS/MC	Total		DH/TH /CHCs	Total	
2016-17	1.52/12.36	13.88	-	4.22/7.14/2.31	13.67	-
2017-18	1.77/13.67	15.44	11.24	7.41/8.17/2.65	18.23	33.36
2018-19	1.77/12.84	14.61	(-5.38)	7.14/9.93/2.97	20.04	9.93
2019-20	2.40/13.56	15.96	9.24	7.76/11.19/3.05	22.00	9.78
2020-21	1.33/7.99	9.32	(-41.60)	3.84/6.66/2.52	13.02	(-40.82)
2021-22	1.80/10.77	12.57	34.87	5.30/8.91/2.77	16.98	30.41

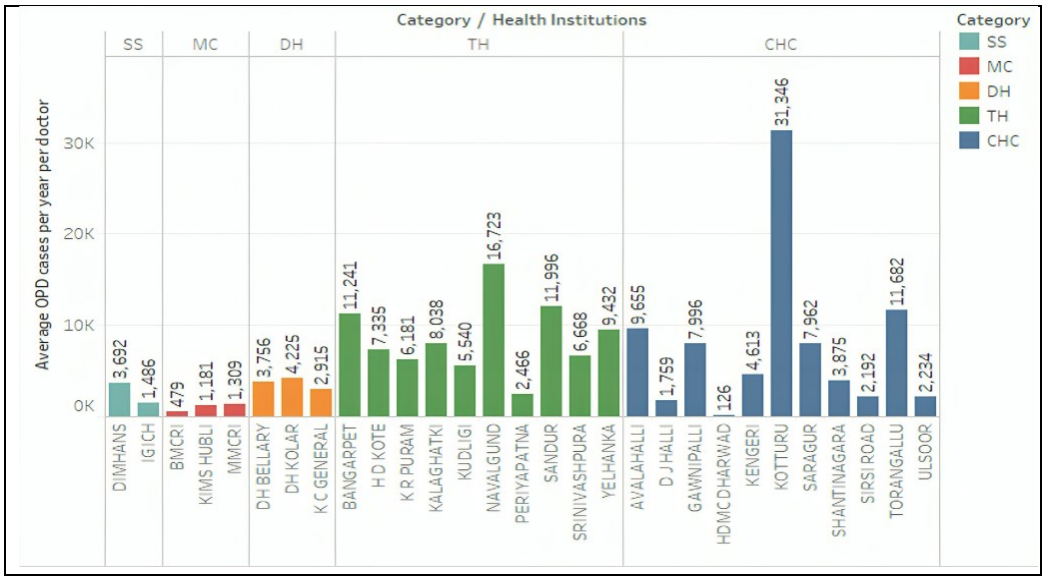
Source: Information verified in test checked HIs

The overall OPD growth in the test checked HIs remained constant on an average during 2016-17 to 2019-20 but fell sharply during 2020-21, the reasons for which can be attributed to COVID pandemic.

3.1.3 OPD cases per doctor

The OPD cases per doctor is an indicator for measuring efficiency of OPD services in a hospital. Analysis of the number of OPD cases per doctor in the test checked HIs for the year 2021-22 showed that it was higher in THs and CHCs as shown in **Chart 3.2.**

Chart 3.2: Average OPD cases per year per doctor



Source: Information furnished by the Department

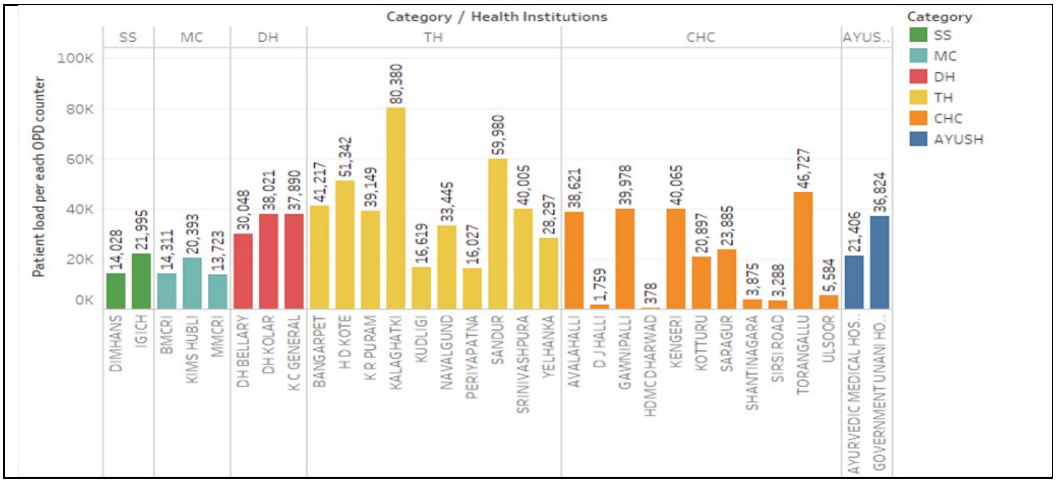
Thus, the doctors were overloaded in the secondary HIs as compared to the other HIs in respect of the average inflow of patients in OPD. The inadequacy of doctors could result in the quality of healthcare services being compromised.

3.1.4 Non-availability of basic facilities

3.1.4.1 Availability of registration counters and average patient load per counter per annum

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. Availability of sufficient number of registration counters, in proportion to the Outpatient (OP) load, aids in faster issue of OP tickets, thereby avoiding long queues of patients at these counters. Audit observed that in 2021-22 in the test checked HIs (up to CHC level) the average patient load per counter per annum is detailed is shown in **Chart 3.3**.

Chart 3.3: Average patient load per counter per annum in test checked Health Institutions (2021-22)



Source: Information furnished by the Department

During 2021-22, the average patient load per registration counter per annum was 35,320 in the three test-checked DHs. In three test checked DHs, DHs Kolar and KC General Hospital had load in excess of the average. Due to heavy load at registration counters, long queues of patients were observed in hospitals.

Analysis of the data done in test-checked 10 THs showed the average patient load per registration counter per annum was 40,646. Four HIs had patient load more than the average and it was significantly higher in THs-Kalaghatagi and Sandur.

Similarly, analysis of the data furnished by 11 CHCs showed that CHC Torangallu had the highest patient load (46,727) while HDMC UHC Dharwad (378) had the lowest, the average being 20,460 patients per counter.

It can be seen that the number of registration counters available was not commensurate with the number of outpatients resulting inpatients or their attendants being made to wait in long queues. No proper seating arrangements were available as shown in the photographs below. In KR Hospital, Mysuru, OPD counters were in the open without any shelter.

No seating arrangements at Cheluvamba hospital

Patients at the OPD Counter at KIMS, Hubballi

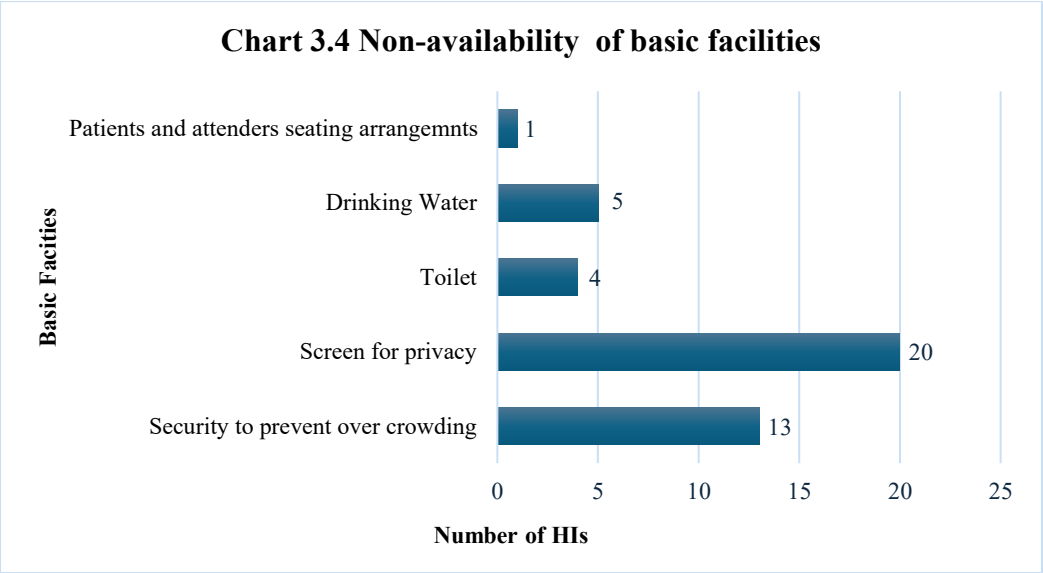
Survey Findings: *Out of 1,260 outpatients, only 59, 54 and 50 per cent outpatients were happy with the patient's calling system in the tertiary, secondary and primary healthcare facilities respectively.*

Good practice

Special Registration counters were arranged for physically disabled and pregnant women in KIMS, Hubballi and TH, Yelahanka respectively.

3.1.4.2 Availability of basic amenities

Waiting room/space with seating arrangement for patients to wait for their turn to see the doctors, toilets, drinking water *etc.*, are some of the basic facilities to be provided at OPD in Government HIs. The non-availability of these facilities in the test checked HIs is shown in **Chart 3.4** and **Table 3.4.**



Source: Information verified in the test checked HIs during field visits

Table 3.4: Availability of services in the test-checked Health Institutions

Availability of services	SS/MCs (05)	DHs (03)	THs (10)	CHCs (11)	PHCs (14)
Display of florescent fire exit sign	4	3	5	7	7
Enquiry/May I help desk with staff fluent in local language	5	3	7	11	10
Directional signage for Emergency, Departments and Utilities	5	3	10	10	9
Display of safety, hazard and caution signs were displayed prominently at relevant places	4	3	9	9	12
Important contacts like higher medical centres, blood banks, and fire department, police and ambulance services were displayed	4	3	8	10	12
Mandatory information (under RTI act, PNDT act, *etc*.) was displayed	5	3	7	10	12
Suitable seating facility	5	3	10	11	14
Patient calling system (Digitalisation)	3	1	3	0	5
Separate toilets for male and female	5	3	10	11	14

Source: Information verified in the test checked HIs

Non-availability of basic amenities in OPD highlights that the infrastructural facilities were not adequate to provide decent services to the patients.

The State Government stated (October 2022) that provision was being made to augment patient friendly initiatives by providing funds under NHM, incentives under AB-Ark, user funds *etc*.

3.1.5 Outpatient satisfaction survey not conducted

NHM Assessor's guidebook prescribes conducting satisfaction survey of outpatients on a monthly basis. The care in the OPD indicates the quality of

services of a hospital and is reflected by patients' satisfaction with the services being provided. Only three HIs, KC General Hospital, DH Kolar and TH Bangarpet had obtained patient feedback during the entire Audit period, and it was partial in 11 HIs[18]. The other HIs had not conducted any survey and thus lost the opportunity of improving the quality of service provided based on feedback.

3.2 Inpatient Department Services

In-patients 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 Outpatient Department, Emergency Services and Ambulatory Care. In-patients require a higher level of care through nursing services, availability of drugs/diagnostic facilities, observation by doctors, *etc*.

3.2.1 In-patient load

The number of in-patients attended in the test checked HIs (upto CHC level) during the period 2016-17 to 2021-22 is shown in **Table 3.5**.

Table 3.5: Number of in-patients in test checked hospitals

(numbers in lakh)

Year	No. of in-patients		Increase in *per cent* (Year over Year)	No. of inpatients		Increase in *per cent* (YoY)
	SS/MC	Total		DH/TH /CHCs	Total	
2016-17	0.18/1.38	1.56	-	0.21/0.40/0.12	0.73	-
2017-18	0.22/1.47	1.69	8.33	0.55/0.46/0.12	1.13	54.7
2018-19	0.21/1.48	1.69	0	0.52/0.52/0.13	1.17	3.5
2019-20	0.24/1.17	1.41	(-16.6)	0.59/0.66/0.16	1.41	20.5
2020-21	0.14/0.96	1.10	(-22)	0.38/0.37/0.13	0.88	(-37.5)
2021-22	0.16/1.30	1.46	33	0.53/0.65/0.17	1.35	53.4

Source: Information verified in the test checked HIs

The number of people obtaining inpatient care in tertiary and secondary care HIs decreased in 2020-21 mainly due to COVID-19.

3.2.2 Availability of beds in In-patient department in DH/THs

IPHS prescribes the minimum essential services and beds to be provided in each level of hospitals. The availability of the recommended allocation of bed strength in the IPD wards of the test checked DH/THs in accordance with the IPHS guidelines is illustrated in **Table 3.6** below:

[18] IGICH, Victoria Hospital, DH Ballari, THs - KR Puram, Periyapatna, Srinivasapura, Yelahanka; PHCs-Addagal, Budikote, Kannur and Morab.

Table 3.6 Availability of IPD beds in test-checked DH/THs

Sl. No.	Name of ward	Recommended number of beds in DH/TH as per IPHS	DH			TH									
			Ballari	K C General Hospital	Kolar	Bangarpet	H D Kote	Kalaghatagi	K R Puram	Kudligi	Navalgund	Periyapatna	Sandur	Srinivasapura	Yelahanka
1	General Medicine	30/16	37	87	43	32	10	24	22	10	20	15	5	16	14
2	General Surgery	30/16	12	59	73	10	10	10	12	0	5	15	5	28	9
3	Ophthal-mology*	5/-	6	8	12	10	2	10	0	0	5	10	0	2	9
4	Accident and Trauma*	10/-	10	29	7	10	19	10	3	5	5	15	0	10	5
5	Pediatrics	10/6	50	60	24	13	5	8	7	5	5	10	3	8	9
6	Others[19]	-	95	125	311	25	84	38	56	30	30	10	78	32	54
Total			**210**	**368**	**470**	**100**	**130**	**100**	**100**	**50**	**70**	**75**	**91**	**96**	**100**

Source: Information verified in the test checked HIs as on January 2024
**Requirement in beds in TH not mentioned in IPHS.*

From the table, it could be seen that the availability of IPD beds was better in DHs compared to THs.

IPHS prescribed availability of minimum of six beds in PHCs for maternal and child healthcare. Audit analysed in test checked PHCs, four HIs were not equipped with labour services facilities. OT procedures *viz.*, Vasectomy and Tubectomy were available only in two PHCs (Annigeri and Mukkal) in Dharwad district as shown in **Table 3.7.**

Table 3.7: Availability of six beds in PHCs with Maternal and Child Health Care

Name of District	Number of PHCs test checked	Availability of six beds	Availability of labor services	Availability of OT (vasectomy, tubectomy)
Ballari	2	2	2	0
Bengaluru Urban	2	2	0	0
Dharwad	4	4	4	2
Kolar	3	3	2	0
Mysuru	3	3	2	0

Source: Information verified in the test checked HIs as of January 2024

3.2.3 Availability of inpatient services

IPHS stipulate the type of inpatient specialist services to be made available in each category of HIs. The status of inpatient services available in the test checked HIs**.** Audit noticed that:

[19] Post- Natal, Post Partum, Post Operative, Labour Room, Antenatal, Isolation, Burns, Thoracic Medicine, Septic Labour Room *etc*.

- ❖ All services were provided in tertiary care HIs.
- ❖ Burns ward and psychiatry was not available in DH Ballari and K C General Hospital.

Non-availability of essential services compelled the patients to move to the tertiary care centres, thereby overburdening the existing infrastructure of the hospital. Further, in absence of these critical care services, the out-of-pocket expenditure to be incurred by the patients compelled to visit private hospitals cannot be ruled out. This defeats the very purpose of establishing government healthcare facilities for economically weaker sections.

The State Government stated (October 2022) that the various measures initiated by the department such as recruitment and compulsory postings had resulted in reducing the gaps in the availability of GDMOs and Specialists.

Audit noticed that the shortage of specialist doctors *viz*., paediatrics, orthopaedics, anaesthesia, general surgery *etc*., in the public HIs was still significant as discussed in Chapter 2.

3.2.4 Non-availability of roster for doctors and nurses

It is essential that doctors and nurses are available round the clock in Government HIs to cater to the public. This requires preparation of shift-wise rosters to ensure that they are always available. Audit noticed that in five[20] out of 16 test checked HIs (MCH/DH/TH), duty rosters for doctors were not available. Similarly, duty roster for nurses was not available in four[21] out of 29 HIs (up to CHC level). The absence of roster is reflective of the non-availability of doctors and nurses for patient care.

The State Government stated (October 2022) that THs/CHCs had single specialist doctors apart from GDMOs and all the doctors were posted for casualty/emergency duty on daily basis through rotation. However, DHs had a duty roster of doctors. The same yard stick was followed for posting of staff nurse.

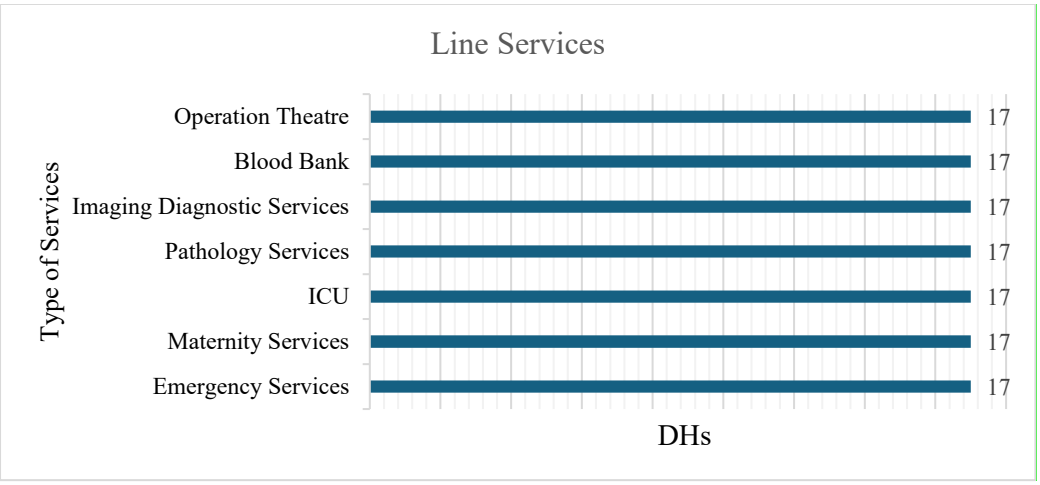
The reply is not acceptable as Audit noticed that no documentation was maintained in this regard.

3.2.5 Availability of Line Services

Healthcare line services management is patient-centred care related to a specific area of clinically related conditions or procedures integrated across a system of care. The services include Operation Theatre, Emergency Service, Diagnostic Services *etc*. Audit examined the availability of line services as per norms in the DHs in the State as shown in **Chart 3.5**.

[20] TH Kudligi, Navalgund, Periyapatna, Srinivasapura and Yelahanka.
[21] TH Periyapatna, CHC Gownipalli, BBMP MHs-Shanthinagar and Sirsi Road.

Chart 3.5: Availability of Line Services in 17 DHs in the State



Source: Information furnished by the Department

Blood banks were available in all the DHs except for two DHs-Ramanagara and Jayanagar where blood storage units were available. Audit examined the availability of lines services in the 17 DHs in the State and noticed the issue related to these services in the test checked HIs in the subsequent paragraphs.

3.2.6 Operation Theatre

Operation Theatre (OT) is an essential service that is to be provided to the patients. IPHS guidelines prescribe OTs for elective major surgery, emergency services and ophthalmology/ENT (ear, nose and throat) for district hospitals having bed strength of 101 to 500. In the test checked DHs, all the major OTs were functional.

3.2.6.1 Shortage of Operation Theatres in District/Taluk Hospitals

As per IPHS norms, every 100 bedded hospitals to be equipped with three Operation Theatres (OTs) for Elective major surgery/Gynaecology, Emergency and Ophthalmology/ENT while a 30 bedded hospital was to be equipped with one OT. Audit observed that all three OTs were available in the test checked DHs and two THs-KR Puram and Kalaghatagi. The status of OT availability in the test checked THs is given in **Table 3.8.**

Table 3.8: Availability of Operation Theatre (OT) in test checked THs

Sl. No.	Taluk Hospital	Elective OT Major	Emergency OT/FW (Family Ward) OT	Ophthalmology/ ENT OT
1	Bangarpet	2	0	1
2	HD Kote	2(1-NF)	0	0
3	K R Puram	1	1	1
4	Kalaghatagi	1	1	1
5	Kudligi	1-NF	0	0
6	Navalgund	2 (1-NF)	0	1
7	Periyapatna	1	1	0
8	Sandur	2	0	0
9	Srinivasapura	1	1	0
10	Yelahanka	2	0	0

Source: Information verified in the test checked HIs during the Audit period 2016-22
NF- Not Functional

Further, only three[22] of the test-checked 11 CHCs had the functional major OT. Non-availability of OT services resulted in denial and referral to Higher HIs. Management of OT services in test checked DHs/THs are shown in **Appendix 3.2.** Moreover, availability of surgical procedures in test checked HIs is shown in **Table 3.9.**

Table 3.9: Availability of surgical procedures in test-checked health institutions

Name of procedure	Availability in test-checked hospitals		
	DH (03)	THs (10)	CHCs (11)
Hernia	3	9	0
Hydrocele	3	8	0
Appendicitis	3	9	0
Haemorrhoids	3	8	0
Fistula	3	9	0
Intestinal Obstruction	3	4	0
Hemorrhage	3	9	1
Nasal packing	3	8	0
Tracheostomy	3	2	0
Foreign body removal	3	10	1
Fracture reduction	3	10	0
Facility for Putting splints/ plaster cast	3	9	0

Source: Information furnished by the test checked HIs as on January 2024

Audit observed that surgical procedures were mainly available in DH/THs. However, these procedures were not available in most of the test checked CHCs.

The State Government stated (October 2022) that all CHCs and THs had provision of one major OT and minor OT. One of the rooms available at CHCs and THs was designated as minor OT. The OTs at CHCs were non-functional due to asymmetrical availability of specialists, mainly anaesthetists.

3.2.6.2 Surgery load per surgeon

As per NHM Assessor's Guidebook, surgeries performed per surgeon are an indicator to measure efficiency of the hospitals. Analysis of the records of surgeries conducted in the test checked HIs indicated substantial variation in the number of surgeries per surgeon detailed in **Appendix 3.3(a)** and **3.3(b).**

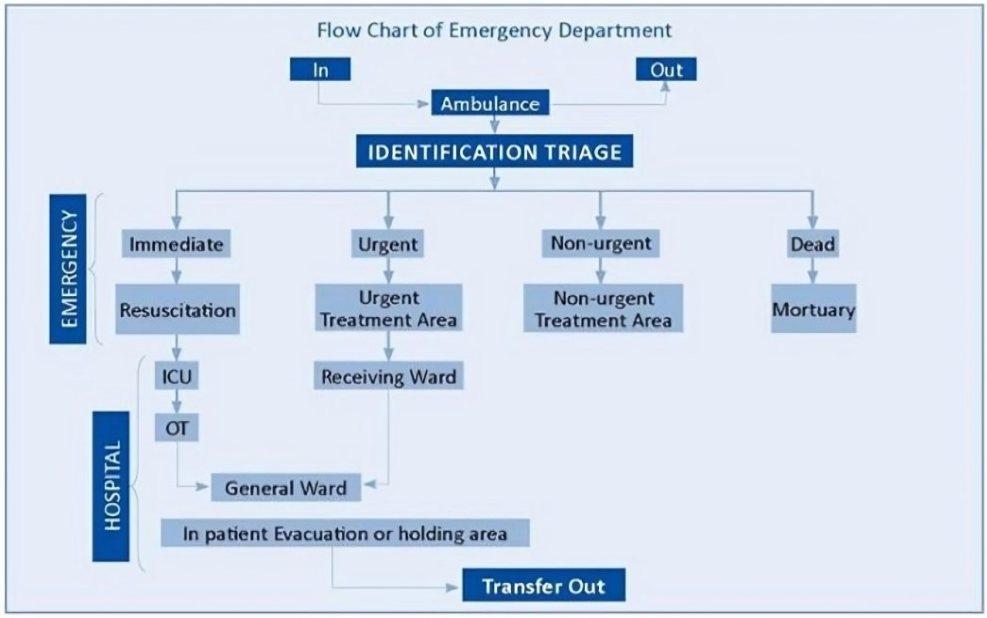
The surgery load per surgeon was higher in IGICH, Victoria hospital, DH Ballari and KC General hospital, Bengaluru. In respect of TH, the surgery load per surgeon was significantly higher in HD Kote, Kalaghatagi, Sandur and Srinivasapura. The huge variation in surgical load in test checked hospitals depicts the asymmetric distribution of the surgeons which needs to be addressed by performing a proper assessment of the workload and proper distribution of available surgeons for the efficient management of services.

[22] CHCs Gownipalli, Kengeri and Halasuru.

3.2.7 Emergency Services

The Emergency Department is the first point of contact for any critically ill patient needing immediate medical attention. The flow chart of the Emergency Department is shown in **Figure-3.1.**

Figure 3.1: Flow Chart of Emergency Department



3.2.7.1 Availability of emergency services

Availability of emergency services are very important to provide treatment to critical accidental cases/patients those need immediate attention. The availability of emergency services *viz*. emergency OT, emergency/trauma ward *etc.,* are also required for these critical patients. Availability of emergency services in test checked DH/TH is shown in **Table 3.10**.

Table 3.10: Availability of Emergency Services in test checked DH/THs

Description	Ballari			Bengaluru Urban			Dharwad		Kolar			Mysuru	
	DH Ballari	TH Kudligi	TH Sandur	K C General Hospital	TH K R Puram	TH Yelahanka	TH Kalaghatagi	TH Navalgund	DH Kolar	TH Bangarpet	TH Srinivasapura	TH H D Kote	TH Periyapatna
Emergency OT	A	A	A	A	A	A	NA	NA	A	A	A	NA	A
Emergency Ward	A	A	A	A	A	A	A	A	A	A	A	A	A
Triage procedure	A	A	A	A	NA	A	NA	A	A	A	A	A	A
Emergency laboratory	A	A	A	A	A	A	NA	NA	A	A	A	NA	A
Separate provision for examination of rape/sexual assault victim	A	A	A	A	A	A	A	A	A	A	A	A	A
Disaster management plan in emergency ward	A	A	A	A	A	A	NA	A	A	A	A	A	A

Description	Ballari			Bengaluru Urban			Dharwad		Kolar			Mysuru	
	DH Ballari	TH Kudligi	TH Sandur	K C General Hospital	TH K R Puram	TH Yelahanka	TH Kalaghatagi	TH Navalgund	DH Kolar	TH Bangarpet	TH Srinivasapura	TH H D Kote	TH Periyapatna
Treatment of assault / bowel/ head / stab/ injuries	A	A	A	A	A	A	A	A	A	A	A	A	A
Blood Bank in close proximity to emergency	NA	A	A	A	A	NA	NA	NA	A	A	A	A	NA
Mobile x-ray/laboratory, side lab / plaster room in accident and emergency service	A	A	A	A	A	A	NA	NA	A	NA	A	A	A

Source: Information verified in the test checked HIs as of January 2024
A- Available, NA- Not Available

However, it was observed though emergency ward was available in all DH/THs, Triage procedure was not available in THs- K R Puram and Kalaghatagi.

Further, it was observed that Disaster Management Plan in emergency ward was available in most of the test checked HIs.

Good Practice:
KC General Hospital, Bengaluru was awarded for their state-of-the-art triaging facility

3.2.7.2 Availability of Routine and Emergency Care in CHCs and PHCs

IPHS prescribes "Assured Services" to be provided at CHC which include routine and emergency care in surgery, medicine, obstetrics and gynaecology and paediatrics in addition to all the National Health programmes. Availability of routine and emergency care services in test checked CHCs and PHCs is shown in **Table 3.11**.

Table 3.11: Availability of Routine and Emergency Care in test checked CHCs and PHCs

Required Emergency Services	Availability
Availability of Emergency Services in CHC (11)	
Dengue Hemorrhagic fever and cerebral malaria	1
Dog and snake bite cases	11
Poisonings, Congestive Heart Failure, Left Ventricular Failure, Meningoencephalitis, Auto Respiratory Conditions, Status Epilepticus	1
Burns, Shock, Acute Dehydration	6
Pneumonias	4
Obstetric Care including surgical interventions like Caesarean Sections *etc*.	6

Availability of Emergency services in PHCs (14)	
24 hours emergency services	8
24*7 emergency, referral, and Normal delivery services	10

Source: Information verified in the test checked HIs as on January 2024

From above it can be seen that emergency services *viz*., dengue haemorrhagic fever and cerebral malaria, poisonings, congestive heart failure were available only in CHC Torangallu. Except dog and snake bite cases, other routine and emergency care services were available in few test checked CHCs. In the test checked PHCs, it was observed that 24 hours emergency services were not available in six PHCs[23] ; referral and normal delivery services were not available in four PHCs[24].

3.3 Intensive Care Unit (ICU) services

Intensive Care Unit (ICU) is essential for critically ill patients requiring highly skilled life-saving medical aid and nursing care. As per IPHS it is mandatory to have an ICU in the HIs (TH and above). The ICU beds should be five to 10 *per cent* of total beds. ICU services were available in the public institutions in the State but were not in proportion with the number of beds as prescribed in the criteria.

While the ICU beds ranged from two to 13 *per cent* of the total sanctioned beds in test checked HIs, it was two and four *per cent* beds in DH Kolar and KIMS, Hubballi respectively. The ICU services were not available in the THs-Kalaghatagi and Kudligi. The status of the number of ICU beds in the test checked HIs as on March 2022 depicted in the **Table 3.12.**

Table 3.12: Status of the ICU beds in the test checked health institutions

HIs	No. of sanctioned beds	No. of ICU Beds	Percentage of ICU Beds
KIMS Hubballi	1,400	52	4
Mysore Medical College (KR Hospital)	1,050	93	9
Victoria Hospital, Bengaluru	764	44	6
DH Ballari	210	15	7
K C General Hospital, Bengaluru	453	46	10
DH Kolar	400	6	2
TH Bangarpet	100	3	3
TH HD Kote	100	3	3
TH K R Puram	100	3	3
TH Kalaghatagi	100	NA	NA
TH Kudligi	100	NA	NA
TH Navalgund	100	3	3
TH Periyapatna	100	3	3
TH Sandhur	100	13	13
TH Srinivasapura	100	3	3
TH Yelahanka	100	3	3

Source: Information verified in the test checked HIs during the period 2016-22;
NA-Not Available

[23] PHCs- Addagal, Badagalapura, Budikoti, Kannalli, Kannur, Thoppanhalli.
[24] PHCs- Badagalapura, Kannalli, Kannur and Thoppanhalli.

3.4 Emergency Response and Health System Preparedness Package

Emergency Management refers to actions taken to prepare communities to be less vulnerable and better able to respond to emergencies. WHO declared Corona virus (COVID-19) pandemic as a Public Health Emergency of International Concern. India reported its first case in January 2020. Subsequently, the surveillance for COVID-19 cases was initiated by the State Government, along with various other agencies to contain it. The COVID-19 pandemic caused a serious impact on the healthcare networks of the State. Karnataka invoked the provisions of the Epidemic Diseases Act, 1897 (March 2020) which empowered government authorities, through legislation, to implement any containment measures to curb the spread of the disease.

3.4.1 Fund utilisation under COVID-19 in the State and test-checked districts

The overall amount released and the actual expenditure thereon under the Health Sector towards containment of COVID -19 Pandemic is shown in **Table 3.13**.

Table 3.13: Utilisation of funds under COVID-19

(₹ in Crore)

Sl. No.	Department	Source/Implementing agency	Fund released	Funds [25]utilized
1	Health and Family Welfare Service	NHM, State Govt – HFW, KSMSCL, SAST	4,547.06	4,037.30
2	Medical Education	State, CMRF, KKRDB, NHM	1,132.86	1,120.87
3	State Disaster Relief Fund	Central and State Share	1,958.58	1,958.58
	Grand Total		**7,638.5**	**7,116.75**

Source: Information furnished by the HWF, DME and SDRF

State Government mobilised funds from different sources as seen from the above, for providing health care, treatment of patients and containment/prevention of the pandemic. As on May 2023, out of ₹7,638.50 crore, an amount of ₹7,116.75 crore was spent. The balance amount of ₹521.75 crore was retained by the State Government.

To contain the pandemic, items such as PPE Kits, Masks, Ventilators, *etc.*, were procured by the HFWD and DME. The status of the items is summarized in **Table 3.14**.

Table 3.14: Procurement of Masks PPE kits and Ventilators

Name of the item	Department		Total
	HFW	ME	
PPE kits	24,70,137	15,65,497	40,35,634
Masks	2,85,62,592	39,00,000	3,24,62,592
Ventilators	1,538	1,007	2,545
Oxygen concentrators	188	Nil	188

Source: Information furnished by the HWF and DME

[25] as of May 2023.

3.4.2 Availability of ventilators and oxygen concentrators under COVID-19 in health institutions.

To reinforce public health facilities during COVID-19 pandemic, GoI under PM CARES fund facilitated the supply of ventilators to the HIs. The details of the ventilators received under PM CARES is shown in **Table 3.15.**

Table 3.15: Ventilators received in State under PM CARES in Hospitals

Make of Ventilator	No. of Ventilator received	No. of Ventilator distributed
BEL	1,475	1,454
AgvA Health Care	540	469
Wipro GE Healthcare Pvt Ltd.	10	10
Total	**2,025**	**1,933**

Source: Information furnished by the HWFD as of January 2024

The State also arranged the medical availability by procuring/installing containers and oxygen concentrators. The availability of oxygen concentrators under COVID-19 in HIs is shown in **Table 3.16**.

Table 3.16: Availability[26] of oxygen concentrators in test checked HIs

No. of OCs allocated to HIs	Information not available
No. of OCs received in HIs	1,306
No. of OCs Not received in HIs	0
No. of OCs installed	935
Functional OCs	1,152
Non - functional OCs	95
No. of OCs connected to Mobile App	17

As could be seen from the table that, out of 935 installed oxygen concentrators, only 17 were connected to mobile application.

3.4.3 Procurements

To arrest the spread and control of COVID-19, the State Government permitted (March 2020), both the HFW and ME departments under Rule 4(a) of the KTPP Act,1999 to purchase medicines, essential items, equipment, and essential services under the State Disaster Relief Fund (SDRF) and NHM directly from agencies. The exemption was applicable only for procurement under emergency circumstances and not for regular purchases. The KSMSCL was responsible for procurement for the HFWD, and the Directorate of Medical Education for the ME department. The State Government constituted (March 2020) a Task Force and formed a Need Assessment Committee, Technical Committee and Procurement Committee to decide on the items to be procured.

[26] as of January 2024.

3.4.3.1 Delay in procurement and supply of drugs and equipment by KSMSC Limited

a) The KSMSCL placed orders for supply of drugs valuing ₹665.03 crore (payments made so far – ₹502.09 crore) to prevent/cure COVID-19. Audit observed that drugs worth ₹17.79 crore were yet to be supplied and there was a delay ranging from one to 252 days in supply of drugs totally valuing ₹415.02 crore.
b) Similarly for supply of equipment valuing ₹831.30 crore (payments made so far ₹727.37 crore), equipment worth ₹288.96 crore was supplied with a delay of one to 217 days. Supply details for equipment worth ₹405.91 crore were not furnished to Audit.

The State Government stated (October 2022) delay in supplies was because of trouble in transport system during first, second and third waves of COVID-19 pandemic. There was also difficulty in procuring raw materials from abroad. Further, few manufacturers expressed helplessness to supply drugs and consumables order given to them.

3.4.3.2 Non-installation of Liquid Medical Oxygen (LMO) Tanks

The COVID-19 task force decided (June 2021) to set up 13 KL LMO tanks in 19 DHs and 6 KL LMO tanks in 135 THs. The State Government sanctioned (December 2021) ₹15.99 crore (₹10.09 crore towards procurement of LMO tanks from M/s. INOX India and ₹5.90 crore towards civil and electrical works) for DHs and ₹98.09 crore (₹59.74 crore towards procurement of LMO tank and ₹38.36 crore towards civil and electrical works) for THs. The works were to be completed at DHs and THs by July 2022 and September 2022 respectively. Exemption under 4(a) of KTPP Act was accorded for early completion of the works and an amount of ₹19.08 crore was released to the supplier. The work was yet to be commenced as of July 2022 resulting in non-installation of LMO tanks thereby defeating the very objective of providing treatment for COVID 19 patients.

The State Government stated (October 2022) that as of September 2022, 26 LMO tanks had been installed, six KL LMO tanks (out of 13) delivered to sites, and some were under arrival stage. It also stated that the balance tanks would be procured and put to use within three months.

3.4.3.3 Additional expenditure on procurement of PPE kits

Government of Karnataka, as part of its preventive measures decided to provide protective gear such as N-95 masks, three layered masks and PPE kits to doctors, nurses and para-medical staff handling the pandemic. Accordingly, the KSMSCL placed orders for 10.05 lakh PPE kits with different agencies[27] out of which 1.28 lakh kits were supplied till end of March 2020. In this background, the State

[27] M/s. Plasti Surge Industries Ltd (O-4,50,000).; M/s. Rudransh Vig Agro India (O-25,000); M/s. Atech Tron (O-25,000); M/s. HLL Life Care Private Ltd. (O-5,00,000) and M/s. Indus Bro Solutions (O-5,000).

Government decided in its meeting (24 March 2020) under the Chairmanship of Minister of Medical Education to procure kits from the international bulk manufacturers. It obtained (28 March 2020) rates from firms which were not the original manufacturers. Subsequently, the State Government decided (30 March 2020) to procure kits with CE ("*Conformité Européenne*") / USFDA (United States Food and Drugs Administration) certificate and submitted the proposals to the Chief Minister for approval.

Scrutiny of records showed that three firms, M/s. X, M/s. Y and M/s. Z submitted their rates. M/s. X, which procures the kits from M/s. G quoted the lowest rates but had not produced USFDA certificate for items such as medical hood, medical goggles, face mask, gloves and shoes. It, however, had assured to furnish the certificate after obtaining it from the manufacturer on receipt of the supply order. The firm had quoted its rates for Freight on Board (FoB), Bengaluru (FoB includes transportation, custom clearance *etc.*, excluding GST). The Procurement Committee did not consider the offer of L1. M/s. Y which was the L2 firm and procures from five different manufacturers had submitted the requisite USFDA certificates but had quoted for FoB, China. The Committee did not consider the offer of the third firm as it failed to furnish the certificates.

The State Government placed (02 April 2020) a supply order for one lakh kits with M/s. Y. In the meantime, the Commissioner, Industrial Development and Director of Industries and Commerce vide email correspondence dated 5 April 2020 intimated the KSMSCL that M/s. X had submitted all the required USFDA certificates through mail and has quoted $27 per kit FoB, Hong Kong and $29.55 FoB, Bengaluru. The firm also offered a reduction of price by one dollar for order of two lakh kits with further discounts if five lakh kits were ordered.

Procurement at higher cost of PPE kits on the second instance: The State Government placed (10 April 2020) orders for one lakh PPE kits with both M/s. Y and M/s. X at $27.72 and $27.00 respectively. This decision resulted in procurement of one lakh PPE kits at a higher cost of ₹1.31 crore[28] ($1.72 x 75.92 x 1,00,000).

Audit observed that the State Government had incurred excess expenditure on procurement of PPE kits in the first instance as detailed below:

Excess expenditure of air transport: The task of airlifting and transporting the goods from China to India was entrusted to Air India by way of an agreement (15 April 2020). The contract was to lift two loads of 30,000 kg (at the rate of ₹1.31 crore per trip) at a total cost of ₹2.62 crore excluding GST. Air India made three trips to lift all the materials.

- As per the communication (April 2020) from Air India, the first flight was operated on 18 April 2020 to airlift 210m^3 of PPE kits which was initially loaded after obtaining due custom clearance. However, Chinese custom authorities carried out unscheduled random custom checks leading to unloading of 127m^3 of PPE kits at the last minute.

[28] Considering the fact that M/s. X had offered a discount of one dollar for order of two lakh kits.

- The second flight, scheduled to depart on 19 April 2020 took off as per schedule with 210m^3 of PPE kits at its full capacity.
- Due to unloading of 127m^3 of PPE kits, additional flight was to be arranged. Pending Government approval, the Commissioner, Industrial Development and Director, Industries and Commerce ordered (20 April 2020) to operate the additional flight. The additional flight was operated on 21 April 2020 for which payment of ₹1.54 crore was made on 24 June 2020.
- Since the customs clearance up to China was the responsibility of M/s. Y, any discrepancies were to be cleared and additional cost borne by the supplier. In the instant case, the State Government met the additional cost of ₹1.54 crore, which resulted in undue benefit to the supplier.

Excess payment of IGST: Since the commitment of M/s. Y was FoB, China, KSMSCL had to facilitate transport from China to India, customs clearance and local transport. The PPE kits comprising of 10 components attracted different IGST rates. KSMSCL paid IGST of ₹4.09 crore against ₹3.06 crore payable resulting in excess payment of IGST of ₹1.03 crore.

Excess payment of GST to Air India: At the time of custom clearance of goods, IGST as applicable was paid on the cost of the material, insurance at the rate of 125 *per cent* of the cost and freight at the rate of 20 *per cent* of the cost of material (CIF – Cost, Insurance and Freight). As the GST on freight was already paid at the time of clearance, payment of GST to Air India was not required in accordance with Notification 12/2017 of Central Tax (Rate), which states that 'Services by way of transportation of goods by an aircraft from a place outside India up to the customs stations of clearance in India are exempt". Audit observed that GST of ₹70.74 lakh was paid to Air India.

Avoidable payment:

(a) The consignment which was to be airlifted from Shenzhen to India was changed as Shanghai to India as suggested by the representative of M/s. Y. Shanghai Sky wings Aviation Service Co. Ltd. was engaged at $28,600 on the recommendation of Air India representative. The change in location resulted in payment of ₹21.99 lakh, which was clearly avoidable.

(b) As per Air India regulations, import cargo shall be kept in the warehouse for two working days (48 hours) including the date of arrival of flight. Beyond two days, warehousing would be charged at 'per kg/per day' non-cumulative basis provided delivery is taken within five days of arrival. If the delivery is beyond five days, warehousing charges will accrue from the date of arrival of flight. Audit observed that the State Government paid ₹30.25 lakh as warehouse charges due to a delay in clearing the goods by the agencies entrusted with the work, which was avoidable.

The State Government stated (October 2022) that as per the quotation, the company was to shift the goods from Shenzhen to Shanghai. It did not offer any comments on the other Audit observations.

3.4.3.4 Purchase of infrared thermometers

The Procurement Committee headed by the Commissioner, HFW approved (March 2020) among other items purchase of 25,000 numbers of infrared thermometers through invitation of quotations from interested bidders. The KSMSCL invited quotations on three occasions for 14,000 units and placed supply orders as detailed in **Table 3.17**.

Table 3.17: Procurement details of Infrared thermometers

(₹ in lakh)

Sl. No.	Date of invitation of bids	Date of receipt of bids	Quantity	Rate	Date of supply order	Value of supply order	Date of supply	Name of the agency
1	20.03.2020	20.03.2020	5,000	3,500	23.03.2020	206.50	02.04.2020 11.04.2020	BYD India
2	22.06.2020	24.06.2020	1,000	2,829	14.07.2020	33.38	14.07.2020	Biofi Medical
3	11.07.2020	14.07.2020	8,000	1,242	17.07.2020	99.36	17.08.2020	Venus Surgical Agencies

Source: Information furnished by KSMSCL

Audit scrutiny revealed the following:

- KSMSCL received 4,000 units in two batches against its order for 5,000 units on the first occasion.
- On the second occasion, though the KSMSCL received quotations for supply of 1,000 units on 24 June 2020, it placed orders on 14 July 2020 after a delay of 20 days. This defeated the very purpose of providing exemption under Rule 4(a) of the KTPP Act for immediate requirement.
- In the meantime, the KSMSCL invited fresh quotations (11 July 2020) for supply of 8,000 units. The bids were received and opened on 14 July 2020, the day on which supply orders were placed for the second occasion. Since fresh quotations were invited before issuing of supply order, the KSMSCL had to exercise prudence and wait for completion of the procurement process on the third occasion.
- The same agency had participated on the third occasion and had quoted ₹1,250 per unit which was much lesser than the rate quoted earlier (₹2,829 per unit). The lowest offer on the third occasion was ₹1,242 per unit.
- This imprudent action of the KSMSCL resulted in additional expenditure of ₹15.87 lakh on purchase of 1,000 units of infrared thermometers.

3.4.3.5 Non-utilisation of ICU Ventilators

The State received 2,025 ventilators from GoI under PM Cares Fund through M/s. A. While 806 units were supplied directly to the various HIs by the agency, KSMSCL received 1,219 units during the period 11 June 2020 to 29 August 2020 and in turn distributed 1,127 systems to the HIs between 1 July 2020 and 19 October 2020. The balance 92 units continued to remain with KSMSCL.

Further, the ventilators supplied by GoI were provided with 1kVA UPS. Audit observed that none of the test-checked hospitals had utilised this UPS as all of them had centralised power backup systems. No efforts were made to identify and transfer the UPS to the needy institutions.

The State Government stated (October 2022) that since the distribution had to come from Deputy Director (Medical) who was coordinating with GoI, there was delay in distribution.

3.4.3.6 Non-utilisation of Medical Gas Pipeline with High Flow Oxygen System (MGPLS)

Government of Karnataka sanctioned (May 2020) setting up of Medical Gas Pipeline with High Flow Oxygen System at all levels of HIs at a total cost of ₹20,798 crore with a condition to first complete DHs followed by THs and CHCs. The Government released the funds to the Engineering wing of HFW. Audit scrutiny showed the following:

- Short term tenders were invited for the above works. Accordingly, the entire tender process was to be completed within 60 days from the date of the tender notification. There was, however, a delay in the issue of work orders (98 to 103 days) in respect of four works due to delay in approval by the Government.
- Although the work was stated to have been completed in all HIs, Audit observed that ₹992.15 crore was still retained by the engineering divisions. The reasons for the same were not furnished to Audit.
- Joint physical verification showed that MGPLS either remained non-operational or was not utilised in five HIs[29].

The State Government stated (October 2022) that the balance amount would be utilised after approval of the revised estimates.

3.4.4 Department of Medical Education

3.4.4.1 Delay in procurement of equipment

The State Government released ₹1,120.87 crore for procurement of COVID-19 related equipment. The DME placed orders during the period March 2020 to March 2022 for ₹1,065.04 crore for procurement of various equipment. Audit observed that equipment worth ₹95.15 crore was yet to be supplied and there was a delay ranging from one day to 135 days in supply of equipment worth ₹864.75 crore. The department levied penalty of ₹2.10 crore for delay in supply of equipment worth ₹540.88 crore and the reasons for not levying penalty for the balance ₹323.87 crore were not forthcoming from the records.

Further, as per the tender conditions, a Security Deposit (SD) at the rate of five *per cent* of the contract value was to be collected from the suppliers. This was however, reduced (December 2020) to three *per cent* by the State Government owing to the pandemic situation in the State. The department collected SD of

[29] KIMS Hubballi, THs-Kalaghatagi, Periyapatna, Navalgund and CHC- Avalahalli.

₹14.12 crore against ₹21.32 crore on procurement of equipment worth ₹710.70 crore. No SD was collected on the supply value of ₹354.34 crore.

3.4.4.2 Equipment procured in violation of exemption

The State Government accorded (March 2020) 4(a) exemption under KTPP Act for procurement of goods and services relating to COVID-19 and under emergency circumstances. The exemption was for the expenditure to be incurred under SDRF[30], CMRF[31] and NHM funds. There were no records to support extension of this exemption for procurement from other sources.

Audit observed that 11 of 18 medical institutions, which had furnished the information, had procured (March 2020 to March 2021) drugs and equipment of ₹20.05 crore from out of the user charges collected from public, by claiming exemption under 4(a) of the KTPP Act instead of inviting tenders. The irregular extension of exemption was in gross violation of the KTPP Act and deprived the institutions of competitive rates.

3.4.4.3 Procurement under MPLADS

GoI, Ministry of Statistics and Programme Implementation (MPLADS Division) granted (March 2020) one-time dispensation for purchase of testing, screening, and other facilities in connection with COVID-19 from MPLADS funds. This dispensation was for purchase/installation of medical equipment costing not less than five lakh rupees. The DME received an amount of one crore rupees under this scheme.

Audit observed that DME, based on the requests from BMCRI and Bowring and Lady Curzon Hospital for supply of Portable X-ray with computed radiography system for treatment of COVID patients and in anticipation of funds from the Government, procured (April 2020) four portable X-ray machines from M/s. B, at a total cost of ₹87.60 lakh (each unit cost – ₹21.90 lakh) by availing 4(a) exemption. As no funds were received from the Government, the DME utilised the available MPLADS funds. Thus, irregular 4(a) exemption was availed for procurement from MPLADS funds.

3.4.4.4 Equipment not installed

(a) The DME supplied (October 2021) 16 types of equipment costing ₹2.49 crore for setting up of Genome Sequencing Laboratory at KR Hospital, Mysuru to undertake genome sequencing of COVID-19 samples during the COVID second wave. Audit observed that the laboratory was made functional only from June 2022. Evidently, genome sequencing of samples could not be undertaken when actually required.

3.4.4.5 Non-functional 25 bedded ICUs

Based on the proposal of Work Force Committee, the State Government approved (August 2021) setting up of 25 bedded ICU in all the Taluk Hospitals. The work of construction of 25 bedded ICU was entrusted (November 2021) to seven

[30] State Disaster Relief Fund.
[31] Chief Minister Relief Fund.

agencies at a cost of ₹208.83 crore with stipulation to complete the work within three months from the date of order. However, the works were at various stages of completion in all the THs. Audit observed that no arrangements were made to deploy additional staff in these ICUs. Further, tenders for procurement of equipment required for these ICUs were under process. Consequently, the ICUs remained non-functional.

The State Government stated (October 2022) that necessary staff had been deployed.

The reply is silent on the procurement of equipment and does not indicate whether the ICUs were actually made functional.

3.4.4.6 Fire Safety Audit

The Supreme Court of India directed (December 2020) all the States to constitute a committee in each district to conduct Fire Audit of COVID HIs at least once a month; inform the management of medical establishment about any deficiency and report to the government for taking follow up action. As per the directions, those HIs which have not renewed their NOC should immediately take steps for renewal. If any COVID HI is found either not having NOC or have renewed the expired NOC, appropriate action be taken by the State.

Audit observed that the State had not constituted any committee to carry out Fire Audit of the COVID hospital as per the directions of the Supreme Court. Consequently, Fire Audit had not been conducted in any of the COVID hospitals. During joint physical inspection, the Audit noticed that only two out of 43 test checked HIs had obtained NOC from the fire department.

The State Government stated (October 2022) that the Commissioner, HFW had issued (July 2021) a circular for appointing a nodal officer for each COVID hospital and a district level committee under the Chairmanship of District Health and Family Officer should be constituted to carry out fire Audit of each hospital at least once in a month. It further stated that so far 163 facilities had got fire safety Audit done by the respective District Fire Safety Officer and 116 facilities had got fire safety recommendation report from Chief Fire Officer.

The reply did not indicate whether the nodal officers and district committees were actually formed and functional.

3.5 Maternity Services

3.5.1 Achievement of required four Antenatal Check-ups (ANC) and delivery of Iron Folic Acids (IFA) tablets, Calcium tablets, Tetanus Toxoid to pregnant women.

Maternity care consists of Antenatal Care (ANC), Intra-partum care or delivery care (IPC) and Postnatal Care (PNC). ANC is the systemic supervision of women during pregnancy to monitor the progress of foetal growth and to ascertain the well-being of the mother and the foetus. Under IPC, interventions for safe delivery in labour room and operation theatre are performed. PNC includes medical care

of the mother and new-born after delivery of the child especially during the 48 hours post-delivery, which are considered critical.

Table 3.18: Indicators of Antenatal Care, TT administration and IFA tablets in the State

(in per cent)

Indicators	2015-16	2019-21
ANC received in the first trimester	65.90	71.0
Pregnant women received at least four ANC	70.1	70.9
TT administration	88.1	93.6
IFA (180 days)	32.6	26.7

Source: NFHS

Note: Colour grading has been done on colour scale with green colour depicting satisfactory performance; yellow denoting moderate performance while red colour depicting poor performance

As evident from the above table, the percentage of mothers consuming iron folic acid for 180 days or more during pregnancy had decreased significantly having a serious impact over the pregnancy outcomes. The other indicators have shown progress since 2015-16 NFHS Survey.

3.5.2 Status of Institutional Deliveries

Table 3.19: Indicators of institutional births and home births by skilled health personnel in the State

(in per cent)

Indicators	2015-16	2019-21
Institutional births	94	97
Institutional births in public health facility	61.2	64.8
Home birth by Skilled health personnel	3.1	1.6
Births attended by skilled health personnel	93.7	93.8

Source: Information as per NHFS Reports 4 and 5

Note: Colour grading has been done on colour scale with green colour depicting satisfactory performance; yellow denoting moderate performance while red colour depicting poor performance.

Though the State has shown progress, the necessary measures have to be taken to improve the score.

3.5.2.1 Antenatal Care

ANC involves general and abdominal examination and laboratory investigations to monitor pregnancies, management of complications, such as Reproductive Tract Infection (RTI)/Sexually Transmitted Infection (STI) and Comprehensive Abortion Care (CAC). Audit noticed shortcomings in ANC in test checked HIs as below:

- Specialised ANC was not provided for pregnant women in CHCs-Kotturu and Sargur either due to absence or intermittent availability of gynaecologist.

- ANC Guidelines provide for conducting six pathological investigations. Only 24 test checked HIs[32] had the facility for conducting all the six investigations. Fourteen HIs[33] did not conduct Rapid Malaria tests and PHC, Badagalapura did not conduct any of these tests due to non-availability of laboratory technician.
- Drugs required for management of RTI/STI cases were not available in 11 HIs[34] and eight HIs[35] did not furnish information in this regard.
- CAC was not available in six HIs for want of specialised doctors. Three HIs did not furnish the required information.

The State Government stated (October 2022) that efforts were being made to fill up the specialist posts and notices had been issued to HIs concerned regarding non-availability of diagnostic tests.

3.5.2.2 Labour room facilities in CHCs/PHCs

Labour room facilities were available in the test checked CHCs and PHCs as shown in **Table 3.20**.

Table 3.20: Availability of Labour Room in test checked CHCs/ PHCs

Type of HIs	Total Number of HIs	Availability of Labour Room in No. of HIs
CHCs	11	11
PHCs	14	14

Source: Information verified in the test checked HIs as on January 2024

3.5.2.3 Pathological Investigations

ANC Guidelines prescribe provision of services for conducting six pathological investigations at CHCs. These tests were to be prescribed, depending on the condition of pregnancy, during ANC visits at CHCs to identify pregnancy related complications.

Audit observed that only 24 HIs out of the 43 test-checked had the facility for conducting all six prescribed pathological investigations, 14 HIs did not have Rapid Malaria tests, three HIs (CHC Gownipalli, PHC Addagal and HDMC UHC Dharwad), did not furnish the information, PHC Badagalapura did not conduct any tests due to non-availability of Lab Technician. Investigations which were not carried out in CHCs, and their impact are summarized in **Table 3.21.**

[32] MMCRI, Victoria Hospital, KC General Hospital, THs-HD Kote, K R Puram, Kudligi, Navalgund, Periyapatna, Sandur, Srinivasapura; CHCs- Avalahalli, Kengeri, Kotturu, Sargur, Torangallu, BBMP MHs- Halasuru, Shanthinagar, Sirsi Road and PHCs- Annigeri, Bettadapura, Kannur, Kittur, Morab, Mukkal.

[33] KIMS Hubballi, Victoria Hospital, DH Kolar, THs-Bangarpet, Kalaghatagi, Yelahanka, BBMP MH-DJ Halli; PHCs-Allur, Badagalapura, Budikote, Chornur, Halgi Gul Koppa, Kannalli, Thoppanhalli.

[34] THs-Bangarpet, Navalgund, Srinivasapura, CHCs-Gownipalli, Sargur; PHCs-Addagal, Annigeri, Badagalapura, Thoppanhalli, BBMP MHs-Halasuru and Sirsi Road.

[35] Victoria Hospital, THs- HD Kote, Sandur; CHCs-Kotturu, Torangallu, BBMP MHs-DJ Halli and PHCs-Allur, Chornur.

Table 3.21: Availability of ANC investigations in the test checked health institutions

Name of the test	DHs (03)	TH (10)	CHCs (11)	PHCs (14)
Blood Group including RH factor	3	10	8	12
Venereal Disease Research Laboratory (VDRL)/Rapid Plasma Reagin (RPR)	3	10	8	12
HIV testing	3	10	8	12
Rapid Malaria Test	3	7	7	7
Blood Sugar Testing	2	10	8	12
Hepatitis B Surface Antigen (HBsAg)	3	10	8	12

Source: Test-checked HIs as of January 2024

Thus, pregnant women visiting THs/CHCs for ANCs remained deprived of diagnosis and evidence-based treatment.

3.5.2.4 Caesarean deliveries (C-Section)

Maternal and Newborn Health (MNH) Toolkit designates all First Referral Unit CHCs and hospitals as the central facility for providing Caesarean (C-section) services with the provision of specialised human resources (gynaecologist/obstetrician and anaesthetist) and equipped operation theatre to provide Emergency Obstetric Care (EmOC) to pregnant women. In this respect, Janani Shishu Suraksha Karyakram (JSSK), entitles all pregnant women to C-section services with provision for free drugs, consumables, diagnostics *etc.* The status of C section deliveries is shown in **Table 3.22.**

Table 3.22: Status of Caesarean deliveries (C-Section) in the State

(*in per cent*)

Indicators	2015-16	2019-21
C-section deliveries	23.6	31.5
Private health facility C-section deliveries	40.3	52.5
Public health facility C-section deliveries	16.9	22.6

Source: NFHS Reports 4 and 5

Note: Colour grading has been done on colour scale with green colour depicting satisfactory performance; yellow depicting moderate performance while Red colour depicting poor performance.

NHM Guidelines on "Engaging General Surgeons for Performing Caesarean Sections and Managing Obstetric Complications" state that around eight to ten *per cent* of total delivery cases require C-section. C-section was not available in eight test checked HIs[36] (up to CHC level) due to non-deployment of gynaecologist/anaesthetist. CHC Gownipalli and BBMP MH Sirsi Road did not provide the required information.

[36] THs- Kudligi, Periyapatna; CHCs-Kotturu, Sargur, Toranagallu, BBMP MHs-DJ Halli, Shanthinagar, UHC Dharwad.

It was noticed that the percentage of C-Section to total deliveries in DHs and THs was 42 and 17 *per cent* respectively. The C-Section deliveries in CHCs were less than four *per cent*. There was, however, no system for Clinical Audit performed by Doctor of Government HIs.

3.5.2.5 Intra-partum Care (IPC)

IPC includes care of pregnant woman during intra-partum period (the time spanning childbirth from the onset of labour). Proper care during labour saves not only mothers and their newborn babies, but also prevents stillbirths, neonatal deaths, and other complications. Quality of IPC is largely dependent on the availability of essential resources and clinical efficiency of medical and paramedical staff. Audit noticed in the test checked HIs that:

- Vital drugs such as B-Complex, Hydralazine, Lignocaine, Methyldopa, and Ampicillin were not available in five DHs[37], 10 THs and eight CHCs during the test checked months. Three HIs[38] did not furnish the records.
- There was shortage of staff required for maternity ward in seven HIs.[39]
- Partographs[40] were not plotted in five HIs[41].
- Pre-term labour requires administering injection of Corticosteroids to prevent complications. Though 5,598 deliveries were recorded as preterm deliveries, corticosteroid injection was not administered in 1,221 cases. Preterm labour was not handled in four CHCs[42] and none of the test checked PHCs.

The State Government stated (October 2022) that the gaps would be addressed, and drugs/consumables would be placed in the all the HIs.

3.5.2.6 Postnatal maternal and Vaccination of birth doses to new-born

Prompt PNC is important for early detection and management of any post-delivery complications. The details of birth doses of immunisation to newborn and post-natal care are shown in **Table 3.23.**

Table 3.23: Birth doses of various vaccines (immunization) to newborn and post-natal care in the test checked districts

Sl. No.	Districts	Total live births	Achievement during the year 2022-23 *(in per cent)*		
			Vitamin K	OPV	Hepatitis-B
1	Ballari	28,786	98	102	97
2	Bengaluru Urban	1,14,329	82	89	82
3	Dharwad	31,902	76	103	100
4	Kolar	20,265	92	100	97
5	Mysuru	36,038	96	100	96

Source: Information furnished by the Department

[37] KIMS, Victoria Hospital, Ballari, K C General and Kolar.
[38] CHCs-Kengeri, Sargur and Toranagallu.
[39] KC General, THs-Bangarpet, KR Puram, Kalaghatagi, Navalgund, Srinivasapura, Yelahanka
[40] A partograph enables the birth attendant to identify and manage the complication of labour promptly or to take a decision to refer the patient to a higher medical facility, if required for further management.
[41] THs-Kudligi, Periyapatna; CHCs -Avalahalli, Kotturu and Sargur.
[42] CHCs-DJ Halli, Sargur, Sirsi Road and UHC Dharwad.

Audit noticed shortcomings in the test checked HIs as below:

- New-borns are to be administered doses of four vaccines *viz.*, OPV, BCG, Hepatitis 'B' and Vitamin 'K' on the day of birth. Test check of labour room records in test checked HIs showed shortage of Vitamin K vaccine during the Audit period in 13 HIs[43], BCG in BBMP MH DJ Halli; PHC Mukkal and OPV in PHC Badagalapura.
- Two Neonatal death was recorded only in TH, Yelahanka. Five HIs[44] did not furnish the information.
- Three radiant warmers were not in use in TH, Yelahanka due to technical problems. The hospital was managing with one warmer kept in the labour room. In TH, Kalaghatagi, the radiant warmer was kept idle for want of repairs.
- IPHS norms prescribe 28 items of equipment to be available in the Special New-born Care Unit (SNCU) in HIs with a bed strength of 301 and above. While in the test checked MCs the availability ranged from 46 *per cent* to 89 *per cent* of the equipment and in test checked DHs, availability ranged between 75 and 89 *per cent* in six HIs.
- Equipment such as baby incubators, phototherapy units and newborn care equipment were not available in many of the test checked HIs.
- Three CHCs[45] and five THs[46] had stabilisation units for resuscitation and care of babies.

Shortage in vaccinations and high still birth rates are a cause for concern in ANC and delivery process and absence of essential equipment in SNCU and labour rooms is indicative of inadequate post-natal care.

Details of women discharged within 48 hours after delivery during the period 2022-23 are shown in **Table 3.24**.

Table 3.24: Total number of women discharged within 48 hours after delivery

Sl. No.	Districts	2022-23		
		Number of Institutional Deliveries conducted (including C-Sections)	Total No. of women discharged within 48 hours	Percentage
1	Ballari	28,898	5,973	20.67
2	Bengaluru Urban	1,12,341	8,015	7.13
3	Dharwad	32,450	190	0.59
4	Kolar	20,342	181	0.89
5	Mysuru	36,230	145	0.40

Source: Information from the HFWD

[43] IGICH, DH Kolar, TH-HD Kote, CHC-Sargur, BBMP MH Shanthinagar, PHC-Addagal, Annigeri, Badagalapura, Bettadapura, Kannalli, Kannur, Galgi Hul Koppa.
[44] DH Kolar, TH Srinivasapura, CHC Gownipalli, BBMP MHs- DJ Halli, Sirsi Road.
[45] CHCs-Avalahalli, Kotturu and Sargur.
[46] THs-Kudligi, K R Puram, Navalgund, Periyapatna and Sandur.

3.5.3 Maternity care outcomes

3.5.3.1 Stillbirths

a) ***Stillbirth*:** The stillbirth rate is a key indicator of quality of care during pregnancy and childbirth. As per Karnataka Registration of Births and Death Act, 1969 report for the year 2022, the average still birth rate of the State was 3.62. Audit observed that stillbirth rate was between zero and 44.19 in the test-checked hospitals as given in **Table 3.25.**

Table 3.25: Still Birth Rate in test checked MCs/DH/THs

Still Birth Rate in test checked MCs/DHs/THs																
Year	Ballari			Bengaluru Urban				Dharwad			Kolar			Mysuru		
	DH Ballari	TH Kudligi	TH Sandur	Vani Vilas	K C General	TH KR Puram	TH Yelahanka	KIMS MC	TH Kalaghatagi	TH Navalgund	DH Kolar	TH Bangarpet	TH Srinivasapura	Cheluvamba	TH HD Kote	TH Periyapatna
2016-17	0	16.78	29.25	7.3	3.66	0	0	4.7	0.9	7.86	0	0	0	32.7	3.56	0
2017-18	14.13	14.81	26.41	6.43	5.69	0	0	4	0.6	6.6	0	0	1.26	33.15	4.41	0
2018-19	4.39	11.49	15.36	6.53	8.1	0	0	4.2	0.5	8.13	0	0	1.3	33.09	5.94	0
2019-20	0	6.72	20.75	6.56	10.2	0	0.84	4	1	7.19	0	0	0	33.55	9.34	0
2020-21	1.76	10.48	8.52	7.11	14.35	0	0	4.6	1.3	9.32	0	2.04	0	42.7	6.35	0
2021-22	0	11.48	9.25	6.48	12.46	0	0	4.2	1.1	5.75	0	3.13	0	44.19	10.97	0
2022-23	2.37	5.92	25.59	6.35	9.2	0	0.75	3.7	1	3.55	0	0	0	37.04	3.08	1

Source: Information furnished by test checked HIs

High stillbirth rates were observed (2022-23) in Cheluvamba (37.04), Vani Vilas (6.35*),* KC General (9.20), TH Kudligi (5.92*),* TH Sandur (25.59). High stillbirth rates were a sign of badly managed antenatal care and delivery process in the test checked HIs.

b) Neonatal deaths - Neonatal death rate is also an indicator of quality of maternity and newborn care services. MNH Toolkit requires hospitals to record the number of neonatal deaths per month with causes of such deaths in the labour room register.

Audit observed that in none of the test checked HIs except for TH Yelahanka wherein two neonatal deaths were recorded. Records in respect of five DHs, one TH and two CHCs were not made available to Audit. Lack of documentation relating to neonatal deaths compromised the ability to seek continuous quality improvement towards neonatal health, impacting neonatal morbidity and mortality.

3.6 Diagnostic services

IPHS norms provide for the standards to be maintained in respect of diagnostic services. Analysis of availability and utilisation of diagnostic facilities in the test checked HIs are discussed in the succeeding sub-paragraphs.

3.6.1 Radiology services

The status of availability and working condition of the diagnostic equipment in test checked HIs as on March 2022 is shown in **Table 3.26**.

Table 3.26: Status of diagnostic equipment in test checked SS/MC/DH/THs

Imaging Services		SS/MCs			DH/THs		
		HIs	Available	Working	HIs	Available	Working
X-ray	500 MA	05	03	03	13	10	10
	300 MA	05	03	03	13	07	04
	100 MA	05	04	04	13	10	09
	60 MA	05	04	03	13	06	05
Dental X-ray		05	00	00	13	08	08
Ultrasonography		05	04	04	13	09	08
CT scan		05	04	04	13	01	01
Mammography		05	03	03	13	02	02

Source: Information verified in the test checked HIs

The availability of diagnostic equipment in the test checked HIs fell short of requirement as per IPHS norms. Audit noticed that available equipment was also not put to use in a few HIs either for want of radiologist, repairs or non-installation. In KR Hospital, Mysuru, the MRI facility was outsourced though the same was to be owned and managed by the Medical College in accordance with National Medical Commission guidelines.

The non-availability of radiology services forced patients to avail these services from higher Government HIs or from private hospitals. Availability of Imaging Diagnostic Services in test checked CHCs is shown in **Table 3.27.**

Table 3.27: Availability of Imaging Diagnostic Services in test checked CHCs

Name of the District	Name of CHC/MH	Radiology		Cardiac Investigation
		X-ray for chest, skull, spine, abdomen, bones	Dental X-ray	ECG
Ballari	Kotturu	Yes	No	Yes
	Torangallu	Yes	Yes	Yes
Bengaluru Urban	Avalahalli	No	Yes	Yes
	BBMP MH DJ Halli	No	No	No
	BBMP MH Halasuru	No	No	No
	BBMP MH Shanthinagar	No	Yes	Yes
	BBMP MH Sirsi Road	Yes	Yes	Yes
	Kengeri	Yes	Yes	Yes
Dharwad	HDMC UHC	No	No	No
Kolar	Gownipalli	No	Yes	Yes
Mysuru	Sargur	No	No	Yes

Source: Information verified in the tests checked HIs as on January 2024

As seen from the above, radiology services were not available in four CHCs. Except for six CHCs, Dental X ray facilities were not available in another test checked HIs. Cardiac investigation (ECG) services were not available in test checked three CHCs.

3.6.2 Non-assessment of Thermo Luminescent Dosimeter (TLD) badges.

TLD badges are used to detect radiation at levels that can be harmful to humans and necessary records shall be maintained as per Atomic Energy Regulatory Board (AERB) guidelines. These badges are to be sent to Baba Atomic Research Centre for assessment on a regular basis. Fifteen test checked HIs had not sent the badges for assessment. The Ayurvedic hospital, Mysuru, had not obtained the badges for its technician and paramedical students undergoing training at Radiology department in KIMS, Hubballi were not provided with TLD badges. Evidently, the monitoring of radiation levels that the staff was exposed to could not be measured there by compromising their safety.

3.6.3 Pathology services

IPHS prescribed the number of pathological investigations to be carried out under five categories in the HIs. Audit noticed that:

- Except for DIMHANS, all the tertiary care HIs were providing diagnostic services in almost all the prescribed pathology tests. However, in DHs, pathology was not available in KC General Hospital. All the test checked DHs were not equipped with all the tests falling under Serology and Biochemistry diagnostics.
- The complete range of pathological investigations was not available in the test checked HIs is shown in **Tables 3.28 (a)** to **3.28(c).**

Table 3.28(a): Availability of Pathology services in test checked SS/MC/DHs

Name of HIs	Clinical Pathology (29)	Pathology (08)	Microbiology (07)	Serology (07)	Biochemistry (21)
Super Specialty Hospitals					
DIMHANS	8	0	0	0	6
IGICH	28	8	5	5	20
Medical College (attached hospitals)					
KIMS, Dharwad	29	8	6	7	19
MMCRI (KR Hospital)	28	8	7	7	21
BMCRI (Victoria Hospital)	24	8	5	6	16
District Hospitals					
DH Ballari	25	6	2	4	10
KC General	20	0	4	3	9
DH Kolar	24	5	6	6	11

Source: Information verified in the test checked HIs as of December 2021

Table 3.28(b): Availability of Pathology services in test checked THs

District	Name of HIs	Clinical Pathology (24)	Pathology (01)	Microbiology (04)	Serology (04)	Biochemistry (06)
Ballari	TH Kudligi	15	0	1	4	4
	TH Sandur	19	0	1	4	4
Bengaluru Urban	TH K R Puram	22	1	0	3	4
	TH Yelahanka	19	1	1	4	4
Dharwad	Kalaghatagi	12	0	1	4	1
	Navalgund	12	1	1	4	4
Kolar	Bangarpet	11	0	1	4	4
	Srinivasapura	14	0	0	4	4
Mysuru	H D Kote	14	0	0	4	4
	Periyapatna	17	1	0	4	1

Source: Information verified in the test checked HIs as of December 2021

As could be seen, only few test checked THs had all the prescribed range of pathology services.

Table 3.28(c): Availability of Pathology services in test checked CHCs

District	Name of HIs	Clinical Pathology (18)	Pathology (01)	Micro-biology (02)	Serology (03)	Bio-chemistry (05)
Ballari	Kotturu	13	0	1	3	5
	Torangallu	10	0	1	3	5
Bengaluru Urban	Avalahalli	11	0	2	3	5
	Kengeri	11	0	1	3	5
	BBMP MH DJ Halli	4	0	0	2	1
	BBMP MH Halasuru	4	1	2	3	1
	BBMP MH Shanthinagar	9	1	0	2	2
	BBMP MH Sirsi Road	18	1	2	3	5
Dharwad	HDMC UHC	8	0	1	3	2
Kolar	Gownipalli	12	0	1	3	5
Mysuru	Sargur	5	0	1	3	3

Source: Information verified in the test checked HIs as of December 2021

None of the test checked HIs had all the prescribed pathology services available.

Biochemistry analyser costing ₹39.53 lakh and supplied (October 2020) was kept unutilised in DH, Kolar. The HI had outsourced 20 laboratory investigations of which facilities for 16 were already available in the hospital. The biochemistry analyser had the capacity to carry out other two[47] tests out of the remaining four[48]. However, the hospital had engaged lab technicians on a contractual basis also. Reasons for keeping the analyser idle even after having the trained technicians were not on record. Outsourcing all the laboratory investigations was, therefore, not prudent and resulted in additional expenditure besides rendering the expenditure of ₹39.53 lakh unfruitful.

[47] D-Dimer and Ferritin.
[48] D-Dimer, Ferritin, HS Troponin-I and Troponin I (Qualitative).

3.7 Blood Banks/ blood storage units

The DHs shall have a blood bank and THs should have blood bank or blood storage unit depending upon the capacity of the TH. The blood bank/storage units shall be in close proximity to pathology and at an accessible distance to OT, ICU and emergency department. The blood banks have to function with the prescribed requirements of infrastructure, technical staff, equipment *etc*., as detailed[49] in the Drugs and Cosmetics Rules, 1945 and obtain valid licence[50] and licence once obtained is valid for five years.

Audit observed that blood bank/Storage unit was available in all test checked HIs. Compliance to the norms by the test checked HIs as noticed in field visits during the period November 2021 to May 2022 were given in **Appendix 3.4**.

Audit noticed that:

- Though items relating to Blood storage unit was supplied (September 2021) to CHC, Kengeri, the unit was not installed.
- In TH, Yelahanka, Dielectric Tube Sealer and Freezer supplied during February and September 2021 respectively, were not put to use.
- In DH, Kolar, Cryo bath CB 100 Terumopenpol which was supplied in April 2017 was not put to use till-date due to non-availability of technician.
- License for the Blood storage unit in TH, Kalaghatagi was not renewed from January 2020.

Blood storage refrigerator not installed at TH Yelahanka

ILR for blood storage not installed – CHC Kengeri

In the absence of the facility, patients were forced to avail the services from the other HIs/blood banks.

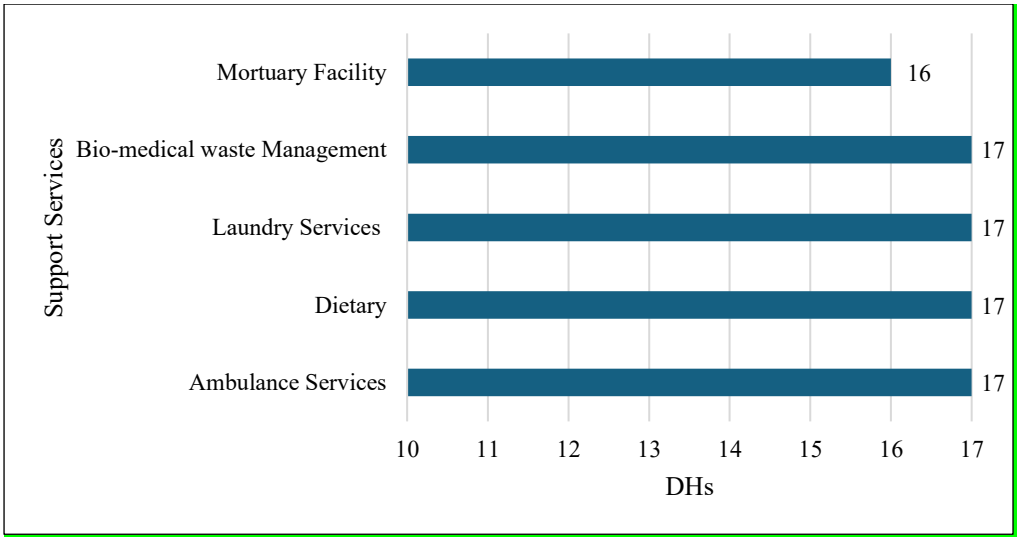
The State Government stated (October 2022) that action would be taken to levy penalty for delayed installation and show cause notice issued for non-utilisation of the units. The reply was, however, incomplete as action taken on the other observations was not furnished.

[49] Schedule F Part XII B of Drugs and Cosmetics Rules,1945.
[50] As per Rule 122-F of Drugs and Cosmetics Rules,1945.

3.8 Auxiliary and Support services

Support services are the functions within the hospitals that supplement the main activities of the healthcare institutions. These services, *viz*., ambulance services, Bio Medical Waste management (BMW), dietary services *etc*., support the work carried out by the doctors and nurses and are crucial in the efficient working of the health care institutions. The availability of the support services as per norms in the DHs in the State as shown in **Chart 3.6.**

Chart 3.6: Availability of Support Services in 17 DHS in the State



Source: Information furnished by the Department

The prescribed support services were available in all the DHS except for Jayanagar; however, inefficient functioning of these services in test checked HIs, noticed by the Audit is brought out in the subsequent paragraphs.

3.8.1 Ambulance services

As per IPHS, 24x7 ambulance services with well-equipped Basic Life Support (BLS) should be available in all the hospitals up to CHC. It is desirable to have at least one Advanced Life Support (ALS) ambulance for DH and above category HIs. Separate dedicated parking spaces with proper demarcation should be available near the emergency wing. Serviceability and availability of essential equipment and drugs in ambulances are required to be monitored on a daily basis.

This office conducted a PA on Arogya Kavacha (108 Ambulance Services) scheme for the period 2014-15 to 2018-19 (*Para 2.1 of Report No. 3 of 2020*). In the PA, Audit had observed that the ambulances reached the patients after 10 minutes in 62, 66 and 63 cases in respect of cardiac, respiratory and stroke cases respectively as against the recommended time which was to be less than 10 minutes. In 50 *per cent* of the trauma cases, the patients were admitted to the hospital after the crucial one-hour time. The allocation of ambulances was not based on criticality of emergencies as ambulances with Basic Life Support system were allocated in 75 *per cent* of the cases to critical emergencies such as cardiac, respiratory and trauma that required allocation of Advanced Life Support systems.

The availability of Ambulance Services in test checked HIs is shown in **Table 3.29.**

Table 3.29: Availability of Ambulance Service in test checked health institutions

Ambulance Services			
HIs	**No. of ambulances available as per norms**	**Availability of ambulance services 24*7**	**Availability of demarcated parking space**
DH (3)	2	3	3
TH (10)	8	10	9
CHC (11)	6	6	6

Source: Information verified in the test checked HIs

In the test checked HIs, Audit observed that ambulance services were not functioning at optimum levels as noticed in the following:

- ALS Ambulances were available only in two HIs (DH and above level).
- Oxygen cylinder was not available in BLS ambulances in five HIs.
- Essential drugs and equipment were not available in ambulances in 13 HIs.

First aid box not kept in the ambulance TH Kalaghatagi

- One ambulance received from KC General Hospital, Bengaluru during January 2019 to be used by the Blood Bank attached to IGICH, Bengaluru was not put to use.

3.8.1.1 Call Management

The first step towards achieving an effective Emergency Response Service (ERS) involves efficient management of the call centre. The details of emergency calls received and attended during the period 2016-17 to 2021-22 by the call centre is given in **Table 3.30.**

Table 3.30: Status of the Call Management

Parameter	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Total
Number of Calls attended	53,53,336	52,05,079	45,86,524	41,30,789	31,32,154	29,98,491	2,54,06,373
Number of Emergency Calls	11,61,661	11,88,322	10,91,423	10,06,034	8,57,447	8,09,881	61,14,76
Number of Non-Emergency/ In effective Calls	33,51,462	31,51,928	27,25,538	31,24,755	22,74,707	21,88,610	1,68,17,000
No of Unattended Calls	83,813	1,00,158	59,352	89,373	17,301	3,99,512	7,49,509

Source: Information furnished by HFWD

The call centre had received around 66 *per cent* non-emergency/ineffective calls during the period 2016-17 to 2021-22. These were mainly enquiry calls, follow-up calls, caller concerns and appreciations, calls from field staff to Despatch Officers (DOs) and Emergency Response Centre Physicians (ERCP). Routing such calls through 108 would burden the emergency helpline and delay the response to other callers requiring emergency assistance. Best practices require providing information to the public and officials on the usage of 108 emergency number. Audit observed that there was only one common number (108 toll free) for emergency helpline and for other purposes *viz*., enquiry calls, follow up calls, caller concerns, appreciation *etc*.

There was no non-emergency call number for public to make enquiries as large number of such calls were routed through 108.

3.8.1.2 Delay in transfer of patients leading to loss of ambulance hours

Transferring a patient from an ambulance to an emergency department in the destination hospital should happen as soon as possible after the ambulance arrives at the hospital. Each failure to meet this time expectation would result in (i) delay for the patient waiting to be received and (ii) delay in an ambulance crew being available for a new emergency call. This means patients, including those with a life-threatening condition must wait longer without any face-to-face medical support, thereby posing a potential safety risk and causing emotional distress. Year wise details of response time along with number of Trips are shown in **Table 3.31.**

Table 3.31: Details of Response time and number of Trips

Response Time Range (in minutes)	No. of Trips						
	2016-17	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**Total**
0-15	4,72,444	4,29,651	3,59,336	3,71,560	25,25,540	2,63,531	44,22,062
15-30	3,00,450	3,20,704	266825	268798	1,99,057	1,89,401	15,45,235
30-60	2,13,000	2,27,006	211193	180148	1,48,649	1,29,161	11,09,157
60-120	24,091	31,831	34805	25232	25,983	19,813	1,61,755
120-240	805	1,604	1,355	917	1,811	1,080	7,572
240-360	48	49	61	88	210	115	571
>360	681	62	82	430	1,256	513	3,024
Total	**10,11,519**	**10,10,907**	**8,73,657**	**8,47,173**	**29,02,506**	**6,03,614**	

Source: Information furnished by HFWD

It was noticed that in 61 *per cent* of the cases, the patients were handed over to the hospital within 15 minutes of reaching the hospital during the period 2016-17 to 2021-22. In respect of the balance 39 *per cent* of the cases, the ambulances took more than the expected 15 minutes to transfer the patients which resulted in loss of ambulance hours and further delay in making their vehicle ready for the next call.

3.8.1.3 Human Resource Management

EMRI was required to deploy the required personnel for the effective implementation of the project. The Government of Karnataka entered into a Public Private Partnership arrangement with GVK Emergency Management

Research Institute, Secunderabad through a Memorandum of Understanding (MOU) to provide a comprehensive 'Emergency Response Service. As per the MOU, each ambulance was to be provided with pilots and EMTs each in the ratio of 2.75 per ambulance. For a fleet size of 715 ambulances, 1,966 pilots and EMTs each were required to be deployed. The status of pilots and EMTs as at the end of May 2023 was 1,563 and 1,348 respectively. The shortage of ambulance staff affected the functioning of ambulance service and also an additional burden on the existing staff to work for longer durations.

3.8.2 Dietary services

Diet and food offered during hospital stay are an important part of patient-centric services available at the hospital. Adequate and appropriate meal consumption to meet patients' dietary requirements is necessary and important to aid in recovery. Patients have the right to ensure their nutritional requirements are met during their stays in hospitals. Apart from a normal diet, diabetic, semi solid and liquid diet should be available.

Audit noticed that:

- Out of 43 test checked HIs, inhouse dietary services were available in eight HIs (inclusive of PHC, Galgi Hulkoppa) and it was outsourced in 29 HIs. Only two of the eight HIs with in-house dietary service and five out of 29 outsourced had obtained FSSAI registration.
- Only KIMS, Hubballi and Victoria Hospital, Bengaluru provided different types of diets *viz*., diabetic, semi solid and liquid along with proper diet counselling. No other test checked hospitals were providing different types of diets to the patients.
- The food distributed to patients was tested by the Food Inspector of district authorities only in five HIs.
- Joint inspection showed food being prepared in unhygienic conditions in the two hospitals attached to MC, Mysuru. In Cheluvamba hospital, the food was carried in trolley without closing the dishes.
- As per Janani Shishu Suraksha Karyakram (JSSK) under NHM, every pregnant woman was entitled to free diet during her stay in the hospital. Since dietary services were not available in nine HIs, the pregnant women were deprived for free diet. CHC, Torangallu issued token worth ₹100 per day for every patient redeemable from a specified vendor located at a distance place, which was not in accordance with the JSSK guidelines.
- In 10 HIs, food was provided only to pregnant women identified under JSSK and not for other patients.

The State Government stated (October 2022) that stringent monitoring would be done to ensure compliance to the guidelines.

3.8.3 Laundry services

The provision of clean linen is a part of patient care in HIs. IPHS prescribed the number of different types of linen[51] that are required for patient care services in hospitals. Audit noticed that:

- Different types of linen were not available in test checked 18 HIs.
- Blankets and abdominal sheets were in excess in all test checked HIs except DH, Ballari and TH, Kudligi. There was, however, a shortfall in other types of linen.
- Eleven HIs had not conducted physical verification of linen.
- Separate trolleys for collection and distribution of clean and dirty linen were not available in 13 HIs.
- In nine HIs, the infectious and non-infectious linens were not transported in separate containers/bags.
- Washing of linen was outsourced in three HIs.
- Washing and drying of linen was carried out in unhygienic conditions.
- New washing machines supplied to DH Kolar, TH Bangarpet, TH Kalaghatagi were not installed and put to use due to various reasons.
- The newly installed washing machine was kept idle in an open place without shed for want of repair in TH, Sandur.
- Both the washing machines in TH, Srinivasapura were kept idle for want of repairs.
- The laundry unit of KR Hospital, Mysuru, was kept idle since 2014 as the building was not fit to handle the vibration generated by the machine. No action was initiated either to shift the machinery out of this building or repair the building. As a result, the entire laundry set had become non-functional. Washing was being carried in the laundry unit of neighbouring Cheluvamba hospital.

[51] Abdominal sheets for OT, Bed sheets, Bedspreads, Doctor's overcoats, Draw sheets, Hospital worker OT coats, leggings, Macintosh sheets, Mats (Nylon), Mattresses (Foam) for adults, Mortuary sheets, over-shoe pairs, Pediatric mattress, Patient's coats (Female), Patient's shirts (Male), Perennial sheets for OT, Pillows, Pillow-covers, *etc.*

Washed linen kept on ground for drying at KC General Hospital

Washed linen being carried in stretcher at TH K R Puram

***Survey Finding**: Out of 586 patients, only 3, 17 and 4 per cent of the in-patients surveyed were provided with coat/pyjamas in tertiary, secondary and primary care HIs respectively.*

The State Government stated (October 2022) that Quality Assurance Division carried out the assessment and provided the gaps to respective HIs as per the GoI provided quality assurance standard. The details of such an exercise having been carried out were not furnished to Audit.

3.8.4 Bio-medical Waste Management

The Municipal Solid Waste (MSW) generated by hospitals should be segregated into bio-degradable, non-degradable and domestic hazardous wastes as per MSW guidelines, 2016 and stored properly in suitable bins. However, it was found that in five[52] HIs, the procedure as laid down for disposal of MSW was not being followed. MSW was being burnt within the campus in GH, Sandur.

MSW burning in GH, Sandur

3.8.4.1 Absence of BMW Committee

BMW Committee was available only in 21 test checked HIs. The absence of committee in the hospitals renders management of BMW ineffective as discussed below:

(a) BMW not collected regularly

As per BMW Rules 2016, untreated human anatomical waste, animal anatomical waste, soiled waste and biotechnology waste shall not be stored beyond a period of 48 hours unless it becomes necessary to store such waste beyond such period.

[52] KIMS, THs - KR Puram, Kalaghatagi, Sandur and PHC, Chornur.

Audit noticed in the test checked HIs that BMW was being collected daily only in 15 HIs, thrice a week in 13 HIs and in 14 HIs, the collection was once/twice/thrice a week. In PHC, Chornur, BMW was collected only twice in a month.

(b) Non-segregation of BMW

The BMW Rules require hospitals to segregate different categories of BMW in separate-coloured bins at the source of generation. Segregation was done in all the test checked HIs except two THs and one CHC. In KIMS, Hubballi, though BMW was segregated in the wards (source), it was stored in dormitory instead of BMW segregation room.

Non-segregation of the waste at TH Kalaghatagi

Waste stored in the open at MMCRI, Mysuru

(c) Hospital staff not immunised

Hospital staff in 30 test checked HIs were immunised against Tetanus and Hepatitis B and in 10 HIs, none of the staff had been immunised. In two HIs, it was partial, and one HI (TH, Sandur) did not furnish the information.

(d) Absence of training for BMW management

As per the BMW Rules, it is the responsibility of the HIs to ensure that all the staff are provided with regular training on BMW handling. 17 test checked HIs did not provide any training to their staff. Joint inspection showed that in TH, Sandur, used syringes were kept in a box in a hospital room without removing/cutting the needles.

(e) BMW collection services by BBMP

BBMP provided for waste collection in the hospital run by it through outsourced agency. The agency was paid on the basis of the sanctioned bed instead of functional beds available in the hospitals. Audit noticed during joint inspection of BBMP run hospitals that there was substantial difference between sanctioned and functional beds. The incorrect adoption of the basis resulted in BBMP having to incur excess expenditure on BMW collection.

3.8.4.2 Liquid Waste Management

In respect of liquid chemical waste generated in HIs, BMW Rules mandate segregation of the waste at source and its pre-treatment or neutralisation prior to mixing with other effluent generated from HIs. Only seven of the 18 test checked hospitals (up to TH level) had set up the Effluent Treatment Plant facilities for pre-treatment of liquid chemical waste. The absence of this ETP facility in other test checked hospitals resulted in drainage of the waste directly into the sewerage system. This not only violated the BMW Rules, but also posed health hazards to public health at large.

3.8.4.3 Non-adoption of Bar Code system

As per the BMW Rule 2016, Bar- Code System for bags or containers containing BMW to be sent out of the premises or place for any purpose was to be implemented within one year from the date of the notification of these rules. However, the procedure of bar coding was not in place in all the test checked hospitals.

3.8.5 Mortuary Services

As per IPHS norms and NHM Assessor's Guidebook, Mortuary facility should be provided in the Health Care Facilities (HCFs) for keeping dead bodies and conducting autopsy. The DHs and THs are required to have a mortuary. Mortuary services were available in all the test checked HIs up to TH level**.** Out of 11 test checked CHCs, only five had mortuary services.

In the test checked HIs, Audit noticed that:

- The mortuary building in TH KR Puram was in a dilapidated condition and not put to use. Further, due to the non-availability of required staff, the required equipment and instruments though provided were kept idle. As a result, 167 dead patients were handed over to the police without post-mortem during the period 2016-21.

- Three tier body unit worth ₹4.48 lakh was not put to use for wanting of power supply of requisite capacity at TH HD Kote.

- The mortuary constructed at a cost of ₹5.35 lakh at CHC, Sargur was not put to use due to non-availability of trained staff and equipment like freezers, steel table *etc*.

- The facility at CHC Kengeri had not been started due to social issues (A temple is situated behind the mortuary).

Mortuary Room in dilapidated condition at TH Kalaghatagi

Locked Mortuary Room at CHC Kengeri

The State Government stated (October 2022) that as on date, the mortuary at KR Puram stands demolished and post-mortem was conducted at two Government medical colleges which were located nearby.

No reply was furnished in respect of other HIs.

3.8.6 Patient rights and grievance redressal

IPHS guidelines envisage that Citizen's Charter should be displayed at a prominent place in the hospitals so that the patients are well aware of their rights, facilities available, user fees charged by the hospital and grievance redressal mechanism available. In the test checked HIs, Audit noticed that:

- Complaint register facility for patients to address their grievances was not available in four DHs/Teaching hospitals, four THs, four CHCs and six PHCs.
- The facility of attending to complaints and action taken were not available in two DHs, seven THs, six CHCs and five PHCs.

Absence of citizens charter and inadequate grievance redressal mechanism rendered the public health service delivery ineffective.

The State Government stated (October 2022) that patient rights and other information would be provided and the same would be monitored in public hospitals.

3.8.7 Infection Control Management

Health care associated infections are major burdens for patients, society and healthcare management. Good infection control programme considerably reduces patients' morbidity and mortality, length of hospital stays, and cost associated with hospital stay. This is achieved by prevention and management of infections through the application of research-based knowledge to practices. Infection control policies need to be framed, practiced and monitored by the Hospital Infection Control Committee (HICC). The details of availability of infection control management in the test checked HIs is summarised in **Table 3.32.**

Table 3.32: Infection Control Management in test checked health institutions

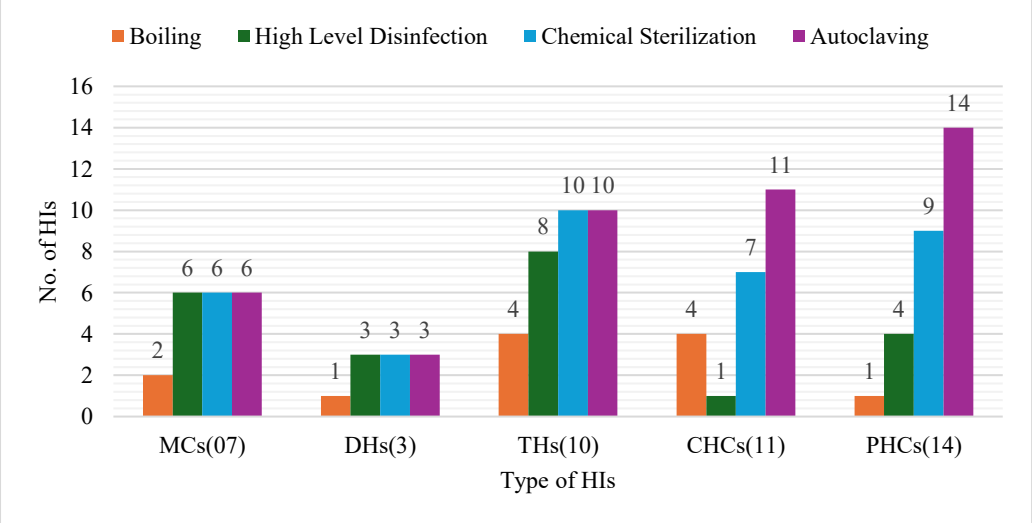
Description	Availability in SS/MCs (05)	Availability in DHs (03)	Availability in THs (10)	Availability in CHCs (11)	Availability in PHCs (14)
Whether checklist for hygiene and infection control available	4	3	10	11	14
Whether hospital Infection Control Committee set up	4	3	10	10	14
Whether hospital Infection Control Committee's meetings are being conducted	4	3	10	10	14
Whether Pest Control is in place	4	3	8	10	14
Whether Rodent Control is in place	4	3	8	6	14
Whether anti-termite treatment is available	3	3	7	5	13
Whether cattle trap is installed	2	2	5	5	8

Source: Information verified in the test checked HIs

Audit noticed that:

- Standard Operating Procedures (SOPs) and HICC were available in almost all the test checked HIs. However, SOPs were not available in one SSH, 10 CHCs and nine PHCs. HICC was absent in one SSH, four THs, six CHCs and five PHCs. Two CHCs and one PHC did not furnish the information.
- Pest and rodent control were absent in two THs and five CHCs. Audit noticed presence of stray dogs and other animals in the premises of test checked HIs.
- Disinfection and sterilisation of medical tools, linen and consumables reduce the chance of spread of infection. This consists of boiling and autoclaving, chemical sterilisation, and high-level disinfection. The status in the sample HIs is shown in **Chart 3.7.**

Chart 3.7: Availability of the procedures of disinfection and sterilization in test checked health institutions



Source: Information verified in the test checked HIs

- ❖ As per NHM Assessor's Guidebook and *Kayakalpa* guidelines, Health Care Facilities must have a system to collect air and surface samples for microbiological survey to check for infections. All the sample DHs were conducting the survey. No survey was done in MC, Mysuru. Only 50 *per cent* of THs and 18 *per cent* of CHCs conducted the survey.
- ❖ Joint inspection showed that in five HIs, the toilets were not in usable condition.

Thus, the absence of SOPs and HICC, pest control, disinfection and microbiological survey reflects on the inadequacy of infection control policies existing in the hospitals, their implementation and monitoring.

Good practice at PHC, Mukkal

One of the most successful and widely used biological control agents against mosquito larvae is the mosquito fish Gambusia affinis and Poecilia reticulata, the common guppy. PHC was breeding and utilizing Gambusia and Guppy fish to eliminate mosquito larvae and ultimately to curb mosquito related diseases like dengue.

The State Government replied (October 2022) that identified gaps would be communicated timely to facilities so that they can classify, prioritize and close those gaps effectively on time.

3.8.8 Patient safety

Patient safety is defined by World Health Organisation (WHO) as 'the prevention of errors and adverse effects to patients associated with healthcare' and 'to do no harm to patients. IPHS also prescribes patient safety facilities those needs to be provided in the HIs. For instance, 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.

The availability of patient safety facilities in the test checked HIs is summarised in the **Table 3.33.**

Table 3.33: Patient safety facilities

Activity	HIs Availability (out of 18)	CHCs Availability (out of 11)
Standard operating procedure for patient safety	17	10
Disaster management plan formulated for patient safety	16	7
Formation disaster management committee	14	6
Facility assigned space or ward to manage additional patient load in the event of a disaster	15	4
Follow a periodic plan to evaluate and manage disasters and mass casualty incidents	15	2
Facility connected to network of referral facilities that will be necessary in a disaster	17	6
No Objection Certificates required to be obtained from the Fire Department	5	0

Activity	HIs Availability (out of 18)	CHCs Availability (out of 11)
Illuminated signage for fire exit was available	12	2
Availability of underground static water tank	12	7

Source: Information verified in the test checked HIs

Out of the test checked 29 HIs (up to CHC level), Audit found that only five hospitals[53] had obtained NOCs from the Fire Department. Illuminated signage for fire exit was not available in 15 HIs. Underground static water tank for storage of water for fire emergency was not available in major HIs DH Kolar and KC General Hospital.

3.8.9 Dialysis Units

The State Government set up Dialysis Units in the District and Taluk Level Hospitals in line with Govt. of India's National Dialysis Programme under NHM. The work of setting and running the Dialysis Unit was entrusted to M/s. X, Bengaluru, and M/s. Y, Kolkata on Public Private Partnership (PPP) mode. In test checked three DHs and 10 THs, Audit noticed the following:

- The service provider failed to make available essential equipment required for dialysis as detailed in **Appendix 3.5**.
- As per the contractual obligations, Nephrologists were to be available from 9 AM to 4 PM in the dialysis ward and later should be available on call and visit if need arises. Further, one Medical Officer/Senior Resident, three trained technicians, three staff nurses, one nursing orderly and one sweeper should be available shift-wise in the centre. Nephrologist was not available in 10 HIs and Medical Officer was not deployed in one DH and nine THs.

The dialysis services provided were, therefore, deficient and not optimum.

The State Government stated (October 2022) that the gaps noticed in the delivery of dialysis services as per norms has been recorded and brought to the notice of service provider. Penalties have been imposed on the service provider for the gaps recorded mainly in the area of non-provision of HR and consumables as per the terms and conditions of the contract. The details of the penalty levied was, however, not furnished.

Recommendations:

4. ***The State Government should draw up an action plan to adopt and implement IPHS fully for provisioning of essential OPD, IPD and emergency services in the Health Institutions (HIs).***

5. ***The State Government should ensure that all essential services in Government HIs adhere to IPHS norms by facilitating the provision of manpower, drugs, and equipment. This will strengthen auxiliary and support services, ultimately enhancing the overall healthcare experience.***

[53] THs- Bangarpet, HD Kote, KR Puram, Kudligi and Navalgund.

6. ***The State Government should examine the circumstances which led to delays, additional expenditure and non-utilisation of equipment required to tackle such emergency situations and take appropriate action.***

7. ***The State Government should set a time limit for all Government HIs to obtain valid authorisations/licenses and penalize the concerned for any non-compliance.***

Chapter - 4

Availability of Drugs, Medicines, Equipment and Other Consumables

Chapter - 4: Availability of Drugs, Medicines, Equipment and Other Consumables

The State lacked a procurement policy for drugs and equipment, resulting in shortage of supplies ranging from 13 *per cent* to 67 *per cent* compared to institutional requirement. Institutions had to locally procure drugs at higher rates. Quality assurance mechanisms were insufficient, leading to delays in testing samples and communicating results, with no checks on locally procured drugs. District warehouses lacked adequate space and storage for drugs and surgical items, specified quarantine areas for storing medicines awaiting quality testing. Improper equipment assessment led to redistribution, premature warranty expiration, and equipment lying idle.

4.1 Introduction

The Department (HFWD) procures and distributes drugs, medicines, surgical items, medical equipment *etc.*, to HIs under its jurisdiction through the Karnataka State Medical Supplies Corporation Limited (KSMSCL), erstwhile Karnataka State Drugs Logistics and Warehousing Society, Bengaluru. KSMSCL manages the procurement and distribution of the drugs/medicines, consumables through application software *e-Aushada*. HIs under Medical Education and ULBs did not have any such system of centralised procurement and management.

4.2 Procurement of drugs

4.2.1 Release and utilisation of funds

The details[54] of budget, release, and expenditure during the period 2016-17 to 2021-22 is given in **Table 4.1**.

Table 4.1: Budget provision, release and expenditure of KSMSCL

(₹ in crore)

Year	Drugs			Equipment			Balance	
	Budget	Release	Expenditure	Budget	Release	Expenditure	Drugs	Equipment
2016-17	180.00	166.47	135.85	34.71	35.34	8.65	30.62	26.69
2017-18	187.20	175.75	91.14	91.86	91.86	38.55	84.61	53.31
2018-19	190.67	179.61	69.87	82.59	82.59	29.91	109.74	52.68
2019-20	207.87	197.10	80.17	103.11	103.11	44.84	116.93	58.27
2020-21	344.46	427.02	379.82	1,182.39	1,182.38	781.48	47.20	400.90
2021-22	681.87	588.98	269.88	262.74	112.84	255.18	319.10	(-)142.34[55]
Total	**1,792.07**	**1,734.93**	**1,026.73**	**1,757.40**	**1,608.12**	**1,158.61**	**708.20**	**449.51**

Source: Information furnished by KSMSCL

KSMSCL utilised only 59 and 72 *per cent* of funds for procurement of drugs and equipment respectively during the above period. The poor utilisation of funds was due to lag in the procurement process. KSMSCL transitioned from the Rate Contract (RC) procurement mode (RCs were usually finalized for a period of two years) to annual procurement mode from 2016-17. However, a specified calendar

[54] includes releases made to tackle COVID-19 pandemic during 2020-21 and 2021-22.

[55] amount being released next financial year, the expenditure accounted/booked in respective year.

schedule for the annual procurement was absent which resulted in delays at all stages as shown in **Table 4.2**.

Table 4.2: Statement showing the timelines of various stages in procurement

Year	State Therapeutic Committee meeting	Submission of annual indents	Need Assessment Committee meeting	Government approval	Start of tender process	Issue of purchase orders
2016-17	18.04.2016	Sept- 2016	28.10.2016	-	18.11.2016	10.04.2017
2017-18	11.04.2017	30.04.2017	29.07.2017	30.11.2017	29.12.2017	11.06.2018 to 27.08.2018
2018-19	08.05.2018	18.07.2018	29.08.2018	26.03.2019	22.04.2019	16.07.2019 to 16.08.2019
2019-20	18.03.2019	10.04.2019	09.08.2019	25.11.2019	29.05.2020	05.06.2020
2020-21	28.04.2020	11.05.2020	14.09.2020	15.11.2021	26.10.2021	24.11.2021
2021-22	23.06.2021	26.08.2021	18.12.2021 18.02.2021 21.06.2022	Yet to be approved.	Not started	NA

Source: Information furnished by KSMSCL

The State Government replied (October 2022) that KSMSCL had proposed the specific calendar schedule for the annual exercise to avoid the delay in process. The proposal was due for approval of the Board of Directors and Government.

4.2.2 Non-procurement and supply of essential drugs

KSMSCL maintains a list of Essential Drugs (ED), which must be kept in stock at its warehouses for supply to needy HIs. However, it was seen that KSMSCL was not procuring all the EDs as given in **Table 4.3**.

Table 4.3: Year-wise essential drugs procured by KSMSCL

Year	Indented from HIs	Approved by NAC	Procured by KSMSCL	Allowed for local purchase	Percentage of procurement
2016-17	Details not furnished				
2017-18	737	622	493	115	66.89
2018-19	849	628	344	221	40.52
2019-20	843	719	367	124	43.53
2020-21	761	445	238	55	31.27
2021-22	761	770	Cabinet approval pending		

Source: Information furnished by KSMSCL

KSMSCL failed to fulfill its objective of providing all essential drugs to the HIs. Audit further noticed that KSMSCL also failed to supply the indented quantities to the HIs as shown in **Table 4.4**.

Table 4.4: Status of the supply against the indents in the health institutions

(numbers in crore)

Year	Indents received		Supplies made		Shortfall	
	Quantity	Amount (₹)	Quantity	Amount (₹)	Quantity	Amount (₹)
2016-17	14.48	359.59	12.65	203.57	1.83 (13)	156.02
2017-18	15.55	331.04	8.92	169.32	6.63 (43)	161.72
2018-19	17.44	360.78	12.04	276.25	5.40 (31)	84.53
2019-20	23.58	488.76	7.63	162.71	15.95 (67)	326.05
2020-21	28.53	567.12	12.18	234.39	16.35 (57)	332.73
2021-22	24.70	630.02	4.17	94.34	Procurement and Supply are in progress.	

Source: Information furnished by KSMSCL. Figures in parenthesis are in percentage

Audit observed shortfall in supplied drugs against the quantity of drugs requisitioned. Status of the supply made against the indent's requisitions from the health institutions in the test checked districts is summarized in **Table 4.5.**

Table 4.5: Status of the supply against the indents in the test-checked Districts

Name of District	Quantity of drugs requisitioned (in lakhs)	Quantity of drugs supplied (in lakhs)	Supply *(in percentage)*
Ballari	507.46	175.85	34.65
Bengaluru Urban	476.59	157.03	32.95
Dharwad	230.41	73.96	32.10
Kolar	613.91	203.03	33.07
Mysuru	573.99	177.02	30.84

Source: Information verified in the test checked HIs for the period 2016-22

The short supply by KSMSCL led to the HIs procuring essential drugs locally at comparatively higher rates from their own funds. A few illustrative cases are detailed in **Appendix 4.1.** Audit also observed that HIs did not have the option of submitting indents when there was an additional requirement of drugs and medicines.

This can be attributed to the fact that the State did not have a documented procurement policy containing the details such as the constitution of various committees, the process of assessing the requirement and its procurement, distribution mechanism *etc.*, to ensure availability of medicines at all times and improve the existing system of procurement and supply of medicines.

The State Government stated (October 2022) that during 2019-20 and 2020-21 there was COVID-19 pandemic situation. Hence, KSMSCL was involved in tenders for COVID related drugs. During 2020-21, a total of 71 tenders were called for 445 drugs of which 241 drugs were procured and for the remaining drugs retendering is under process. It further stated that KSMSCL had taken up the preparation of the detailed procurement policy after in-depth study of similar policies/ procedures being adopted in other State Government Medical Supplies Corporations. The policy would be published by the end of March 2023 with due approval from the Board of directors of KSMSCL and the Government.

4.2.3 Purchases from Karnataka Antibiotics and Pharmaceuticals Limited

Karnataka Antibiotics and Pharmaceuticals Limited (KAPL) is a Public Sector Undertaking involved in the manufacture of antibiotics and other drugs required for both human and veterinary use. The State Government accorded exemption under Section 4(g) of KTPP Act each year for procurement of 81 drugs from KAPL at a price fixed by National Pharmaceuticals and Pricing Authority (NPPA). Audit observed that the cost of drugs procured from KAPL constituted six to 45 *per cent* of the total cost of drugs procured by KSMSCL during the period 2017-18 to 2021-22[56]. The procurement of drugs from KAPL specifically under 4(g) exemption was against the spirit of transparency in procurement and was not justified for the following reasons:

[56] Details for 2016-17 were not furnished.

Short supply of drugs – KSMSCL placed orders worth ₹377.63 crore with KAPL during the period 2017-18 to 2021-22, of which KAPL supplied drugs worth ₹372.46 crore. There was short supply of drugs valuing ₹5.17 crore.

Delay in supply – Audit observed delays ranging from 305 to 714 days in supply of drugs by KAPL. Though penalty of ₹24.47 crore was levied as on March 2022 for the short and delayed supplies, the very purpose of entrustment under 4(g) stood defeated.

Procurement at higher cost - KAPL quoted rates as fixed by NPPA. These rates were inclusive of 16 *per cent* discount to be offered to buyers. KAPL, however, had not extended this discount to KSMSCL resulting in procurement of drugs at higher cost and additional expenditure of ₹59.60 crore.

Not of standard drugs – Audit observed that 12 batches of seven drugs supplied by KAPL were declared as 'Not of Standard' by the Drugs Controller and empanelled laboratories of KSMSCL.

It is pertinent to mention here that the Public Accounts Committee (PAC) during its discussion on **Para 2.1.10** of the Report of the CAG for the year ended March 2012 (Report No. 02 of 2013), had recommended to reconsider the procurements to be made from KAPL. However, no action was taken on this recommendation.

The State Government accepted (October 2022) that the rates fixed for KAPL products by NPPA were always high compared to tender prices. However, procurements were done based on the exemption orders issued. It was further stated that notice for replacement of drugs would be issued to replace the whole quantity of batch and if not replaced, the value would be deducted from the bills.

4.2.4 Procurement of drugs/medicines at higher rates

Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) aimed to make available quality generic medicines at affordable prices for all. PMBJP finalized rate contracts (RCs) for the period 2018-20 (May 2018 to July 2020). It was prudent for KSMSCL to explore the possibility of procuring such of those drugs which were available at lesser cost under the RC of PMBJP. Audit observed that this possibility was not explored and as a result, KSMSCL incurred an additional expenditure of ₹33.79 crore towards procurement of 60 drugs at higher cost during the period 2018-20.

The State Government did not furnish the reasons for not exploring the possibility of procuring drugs which were available at lesser cost under RC of PMBJP.

4.2.5 Procurement of Psychiatric drugs

The High Court of Karnataka directed (March 2006) the State Government to make sufficient provision in the budget for the mental health of the citizens of the State and to ensure that necessary medicines are available. Based on the requisition of the Deputy Director (Mental Health), KSMSCL procured and supplied the psychiatric drugs to the HIs including CHCs/PHCs. Audit noticed that the Deputy Director worked out the requirement on an *ad-hoc* basis and was not need based. During the period 2016-17 to 2021-22, psychiatric drugs worth ₹3.45 crore were supplied of which drugs worth ₹32 lakh had expired due to their

non-utilisation. The non-utilisation can be attributed to non-availability of qualified doctors to treat psychiatric disorders in the HIs.

The State Government stated (October 2022) that utilisation of psychiatric drugs was the responsibility of the district level programme officer of the concerned programme. However, KSMSCL would issue the drug replacement notice to concerned supplier to replace the quantity of the expired drug.

The reply did not address the observations on need-based assessment and absence of qualified personnel.

4.2.6 Availability of essential drugs and medicines in test checked Health Institutions

IPHS provide guidelines for the delivery of quality health services in India. These standards cover various aspects of healthcare, including the availability of essential medicines. IPHS suggests a list of drugs/medicines category of HI wise. The suggested drugs/medicines (including infusion fluids and miscellaneous items) for DH are 458, TH-405, CHC-176 and PHC- 115. In the State, KSMSCL maintains a list of Essential Drugs (ED) as per the State Therapeutic Committee, which must be kept in stock at the HIs.

The essential drug list as prescribed (KSMSCL) consists of Essential Drug List[57] (EDL), Very Essential Drug List (VDL)[58] and Most Essential Drug List (MDL)[59].

Audit analysed the data on the availability of essential drugs and medicines in the test checked HIs (30 June 2022) in the *e*-Aushada application. In respect of EDL, all the test checked DHs had less than 50 essential drugs against the requirement of 128 having shortage of 61 *per cent*; all the test checked THs had only 35 or less essential drugs against the requirement of 81 drugs having shortage of 57 *per cent,* CHCs had only 25 or less drugs having shortage of 61 *per cent* against 64 essential drugs to be available.

It was also observed that none of the HIs had the prescribed number of drugs (VEDL and MEDL) as depicted in **Appendix 4.2.**

This was because KSMSCL did not supply the required number and quantity of drugs intended by the HIs as discussed in **Para 4.3.1.** The non-availability of prescribed essential drugs at all times percolates to the non-availability of the essential drugs in emergency ward, ICUs, OTs, IPD, maternity wards *etc.,* as shown in **Appendix 4.3** impacting timely and quality delivery of services to patients besides, forcing the poor patients to purchase unavailable essential drugs from outside.

***Survey Findings**: Out of 1,260 outpatients, only 70, 91 and 92 per cent in the tertiary, secondary and primary care hospitals respectively got the drugs at the OPD counters. For remaining patients, it was either partially available or not available at all.*

[57] Number of prescribed medicines (KSMSCL) under EDL are 128 in DH and 81 in TH and 64 in CHC.
[58] Number of prescribed medicines (KSMSCL) under VEDL are 28 in DH and 25 in TH and 28 in CHC.
[59] Number of prescribed medicines (KSMSCL) under MEDL are 115 in DH and 106 in TH and 81 in CHC.

The State Government stated (October 2022) that KSMSCL would analyse the availability of essential medicines at HI's level and suitable action would be initiated to maintain buffer stock of essential drugs and medicines.

4.3 Drugs purchased from blacklisted firm

As per Clause 28 of the tender, if two or more drugs of a firm failed in quality tests, the firm was to be blacklisted for subsequent five years from participating in any departmental tenders. KSMSCL blacklisted eight firms during the Audit period. One such firm was M/s SM Pharmaceuticals which was blacklisted for the period 31 July 2020 to 30 July 2025. Audit, however, observed that the firm had supplied drugs worth ₹97 lakh during the period August 2020 to November 2020 indicating the absence of stringent monitoring mechanism in KSMSCL.

Further, as per the tender conditions, if any manufacturing unit does not meet the required manufacturing standards during Factory Inspection, the bid shall be disqualified. The factory inspection report in respect of the selected bidders was not forthcoming from the records.

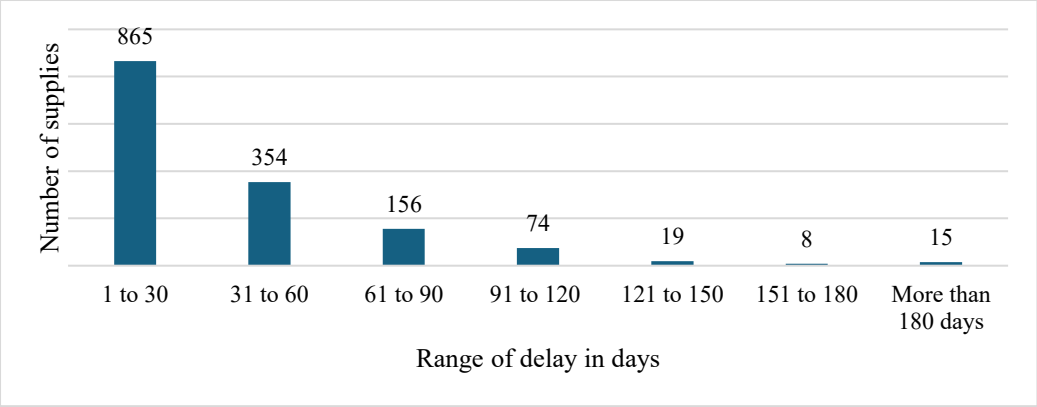
The State Government stated (October 2022) that the purchase order was issued before the blacklisting date and since there was huge demand for hand sanitizer during COVID pandemic, the supply was accepted.

The reply is not acceptable as no relaxations were provided to the stipulated conditions in the tender document.

4.3.1 Delay in Supply of Drugs/Consumables to Warehouses

The tender conditions stipulate a maximum time limit for supply. KSMSCL had introduced a security system which did not permit the Drug Warehouses (DW) to receive any supply after expiry of the maximum time limit. Audit observed that there were delay in supply of ordered quantity of drugs/medicines and consumables to the Warehouse/District Warehouse. The range of delay in supply of drugs to warehouses is shown in **Chart 4.1.**

Chart 4.1: Range of delay in supply of drugs to Warehouse



As can be seen from the above, there was delay supply of drugs which ranged from one day to more than 180 days.

The State Government stated (October 2022) that penalty would be imposed on the bill amount for delayed supplied as per the guidelines.

4.3.2 Acceptance of drugs with lesser shelf life

The tender conditions stipulate that all drugs should arrive at the District Warehouses (DWs) with a remaining shelf life of at least 80 *per cent* of the total stipulated shelf life of the product, failing which the drugs would be rejected. The DWs had accepted drugs worth ₹143.90 crore with a shelf life of less than 80 *per cent* during the period 2016-17 to 2021-22. Audit observed that drugs worth ₹23.72 crore had a shelf life of 50 *per cent* or less. Though the DWs had immediately distributed these drugs to the HIs, the controls to ensure supply of drugs with sufficient shelf life was ineffective. Moreover, there was no feedback on timely utilisation of drugs with very narrow shelf life by various HIs except on their expiry.

The State Government stated (October 2022) that *e*-Aushada software would not accept drugs with less than 80 *per cent* shelf-life except with the approval of concerned authority. However, in cases of emergency requirement, approval of concerned authority was taken for accepting the drug for the benefit of the KSMSCL by taking the undertaking from the firm for replacing the quantity if unutilized. It also stated that a certain value of bills would be deducted as per the decision of the Board.

The reply is not acceptable as even drugs/medicines having shelf life less than 50 *per cent* were also received by the DWs.

4.3.3 Receipt of drugs after expiry

KSMSCL had introduced a security lock system, which does not permit the warehouses to receive any supply after expiry of the maximum time limit allowed for supply. Any receipt after the prescribed time limit would be accepted only after the security lock was opened by the EDP personnel with the approval of the Managing Director. Audit observed that in 2018-19 and 2020-21, there were eight instances wherein the request for opening the security lock was received after the expiry date of the drugs as detailed in **Appendix 4.4**. This evidence indicates that proper checks were not exercised by the DWs before sending the requests for release of lock, wherein the existing system allowed receipt of expired drugs by the DWs.

4.3.4 Non-disposal of expired and not of standard drugs

Schedule I of Biomedical Waste Management Rules, 2016, stipulate that expired cytotoxic drugs and items contaminated with cytotoxic drugs are to be returned back to the manufacturer/supplier or to the common bio-medical waste treatment facility or hazardous waste treatment, storage and disposal facility for incineration. All other discarded medicines shall be either sent back to the manufacturer or disposed of by incineration.

Audit observed that expired drugs worth ₹23.03 crore for the period 2019-22 were lying at 27 DWs in the State without disposal. These expired drugs were kept along with other regular drugs and medicines and exposed the risk of issuing these drugs inadvertently to various HIs besides creating storage constraints.

Expired drugs not kept separately at TH Yelahanka

Expired medicines kept in IPD Ward at Victoria Hospital

The State Government stated (October 2022) that the District Drug Destruction Committee was formed under the Chairmanship of the District Commissioner, but meeting could not be convened due to COVID pandemic. The information about the current stock expired and NSQ drugs pending for disposal at warehouse level had been collected and tender for disposal was under process.

4.3.5 Availability of Drugs, lab reagents, consumables and disposables.

Regular supply of essential drugs and other consumables is very important for providing healthcare services in the health institutions. In the State, the KSMSCL supplies drugs/medicines and other necessary items *viz.* consumables and disposables to the health institutions. To ensure proper healthcare services and facilities, essential drugs and consumables/disposables are to be available in the health institutions in optimum quantity. The status of availability of drugs, lab reagents, consumables and disposables in test checked health institutions is detailed in **Appendix 4.5(a)** and **4.5(b).**

Audit analysed that none of the test checked health institutions had all the prescribed drugs as per IPHS. This implies the patients were being forced to buy the drugs and other essential items from outside.

In the health institutions under AYUSH, the status of availability of essential medicines in test checked health institutions is shown in **Table 4.6.**

Table 4.6: Availability of AYUSH essential medicines in test checked health institutions

Availability of AYUSH Essential Medicines							
Name of District	**Number of Ayurvedic Drugs in EDL**	**Average of availability of ayurvedic drugs during 2016-22**					
		2016-17	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Bengaluru Urban	200	37	64	31	77	30	110
Mysuru	200	142	185	83	67	58	39

Source: Information verified in the test checklist as of January 2024

As could be seen from the above table that only in three instances, the availability of essential medicines was more than 50 *per cent.* The prescribed number of drugs in Essential Drugs list was not adequately maintained.

4.4 Quality control mechanism in respect of drugs

4.4.1 Ineffective quality control mechanism

The tender conditions provide for drawing samples at any time during the shelf life of the product and test it at any approved laboratory for quality assurance apart from the routine check by the Drugs Controller. The drugs supplied should have the active ingredients as per the specifications throughout its shelf-life. KSMSCL had empanelled laboratories to test the drugs. Audit observed that the quality control mechanism was ineffective for the following reasons:

- KSMSCL empanelled four laboratories for testing of drugs during the period 2015-16 to 2016-2017. Fresh contracts were finalised during September 2017 and samples were sent to the newly identified agencies from October 2017 onwards. No samples were sent for quality checks during the intervening period from April 2017 to September 2017.

- KSMSCL invited tenders to test 556 types of drugs and medicines for the period April 2020 to March 2022. Successful bids were received in respect of 481 drugs and the work was allotted to three empanelled laboratories. For the balance 75 drugs, bids were either not received, or the rates quoted were higher. Tenders were re-invited in November 2020 and work order issued on 1 July 2021. These 75 essential drugs were distributed and consumed during the intervening period without any quality assurance.

- The existing practice is that the DWs send samples to KSMSCL which in turn sends it to the empanelled laboratories. No norms were prescribed for adopting such a procedure. Audit observed delays ranging from one day to 27 days in sending the samples by KSMSCL after receipt of the same from DWs during the period February 2018 to March 2020. Records for the period prior to February 2018 and for 2020-21 were not furnished to Audit.

- There is no system of freezing the drugs of the batches sent for testing as the same batches are being supplied to the health institutions for issuing to the patients. In case of drugs declared NSQ, the intimation from the KSMSCL is sent to the DWs, by that time the NSQ drugs have been issued to the patients for consumption.

- Audit compared the results of the samples of the same batches drawn by both the empanelled labs and the Drugs Controller and noticed that in six instances (**Appendix 4.6**), where the empanelled labs had certified the drugs as of standard quality, the test report of Drugs Controller had certified the samples as NSQ. 59 *per cent* of these drugs were consumed before receipt of the test results.

The State Government stated (October 2022) that KSMSCL insisted the supplier to produce analysis report for the supplied batch from the NABL accredited laboratory, which ensures the quality of the drugs supplied. However, confirmation of the quality of goods supplied would be done by getting the samples tested at empanelled laboratories. This was done to confirm the quality of drug at the storage and for payment purposes only. It further stated that as soon as the drugs were declared NSQ, the drug would be frozen to stop distribution in *e*-Aushada software and the message would be reflected in warehouse dashboard.

The reply, however, does not address the Audit observations on delay in sending samples for testing, delay in communicating the test results, action taken on empanelled labs and other observations.

4.4.2 Storage of drugs, medicines and surgical items

The Drugs and Cosmetic Rules, 1945 stipulate the parameters for storage of drugs in stores to maintain the efficacy of the procured drugs before issued to patients. The norms and parameters as prescribed were, not followed in the test-checked hospitals as detailed in **Appendix 4.7**. Audit also observed that space and storage arrangements for large quantities of various drugs / medicines and surgical items were inadequate in the DWs and there was no quarantine area for storing medicines awaiting quality test approval.

Cartons of the drugs kept on floors without pallets drugs at DH Ballari

Dilapidated condition of the storage areas of TH Kalaghatagi.

4.5 Procurement of medical equipment

4.5.1 Absence of procurement policy

Best practices advocate adopting a procurement policy especially for procurements involving huge expenditure. There was no comprehensive policy and detailed action plan for ensuring timely procurement and distribution of equipment. Audit examined the availability of essential equipment with reference to IPHS, required for use in ICUs and OTs, diagnostic equipment for services like ENT, Ophthalmology, Dental, Endoscopy *etc*., and observed shortfall in requirement available in the sampled HIs as detailed in **Appendix 4.8(a)** and **4.8(b)**.

During the period 2016-17 to 2021-22, KSMSCL procured medical equipment worth ₹557.33 crore. Audit observed deficiencies/shortcomings relating to tendering, need-assessment, indent mechanism, as enumerated in the subsequent paragraphs.

The State Government replied (October 2022) that KSMSCL had taken up the preparation of the detailed procurement policy after in-depth study of similar policies/procedures being adopted in other State Government Medical Supplies Corporations. The policy will be published soon on approval.

4.5.2 Improper planning and assessment of requirement

(a) Ideally the HIs were required to furnish their requirements which would then be consolidated, and procurement done by KSMSCL through tenders. Audit noticed that equipment was purchased under various programmes based on the

decision of the NHM Committee without ascertaining the requirements from the HIs indicating that procurements were not need based. As few of the HIs were not registered with Atomic Energy Regulatory Board (AERB) and did not have the requisite space for installation of certain equipment like C-Arm, C-Arm with IITV *etc.*, revised supply orders were issued for 11 equipment during the period August 2018 to December 2019 wherein some original consignees were replaced as shown in **Appendix 4.9**.

(b) The NHM Committee identified KC General Hospital, Bengaluru for supply of Green Laser worth ₹14.75 lakh under the National Programme for Control of Blindness and Visual Impairment. The equipment supplied during July 2018 could not be put to use for want of slit lamp. The hospital procured the slit lamp costing ₹7.46 lakh only during March 2021. In the meantime, the warranty for the Green Laser has expired.

The above instances indicate the absence of proper assessment and planning in procurement of equipment.

The State Government stated (October 2022) that planning of assessment of the requirement of equipment and the consignee list for supply of the procured equipment to HIs was done by Need Assessment Committee of HFW.

It is evident from the reply that the requirement of equipment was not being ascertained by the HIs.

4.5.3 Idling of telemedicine equipment

Government of Karnataka in collaboration with Indian Space Research Organisation (ISRO) started (2004) the Telemedicine program to overcome geographical barriers, and to increase access to healthcare services. Audit noticed that in six HIs[60] test checked, the telemedicine facility was not put to use due to non-installation, poor network, and shortage of staff.

4.5.4 Non-compliance to provisions

As per the Government instructions (June 2003), the time gap between the opening of the technical bid (first cover) and financial bid (second cover) should be minimum, and in any case not more than 45 days. The time gap between the opening of the technical and financial bids in respect of 14 tenders processed during 2017-21 varied from 47 days to 78 days. There was neither justification nor approval of the appropriate authority on record for the delay in the tender evaluation process.

As per the tender conditions, the tenders were valid for 180 days. Hence, the entire tender process should be completed within this period. If for any reason the tender process cannot be completed within this period, an extension of validity of the tender should be obtained in writing from the bidders. The number of days taken to complete the tendering process during 2017-21 ranged from 84 days to 365 days. However, KSMSCL had not obtained extension of validity of tenders in cases where the validity period of 180 days had expired.

The State Government stated (October 2022) that in cases of few tenders which were delayed by more than 45 days during technical evaluation, they were

[60] THs-Bangarpet, HD Kote, Navalgund, Periyapatna; CHC-Kengeri and Sargur.

processed further without obtaining the approval from the competent authority due to overlapping tender activities and by oversight. However, most of the equipment were procured within the bid validity period. Further, fresh timelines for tender process were issued (November 2021), which were to be implemented strictly.

Reply is not acceptable since Audit observed that there were instances where the tenders were finalised after the bid validity period.

4.5.5 Pre-Dispatch Inspection

The tender conditions provided for carrying out Pre-Dispatch Inspection (PDI) by HI end user and team of experts appointed by KSMSCL. However, the time limit within which the PDI was to be done was not specified. The supply orders issued stipulate the maximum period for supply and installation as 45 days. Hence, PDI was to be completed well within this period. In this regard, Audit noticed the following:

- KSMSCL issued (December 2018) orders for supply of 375 Pathological Binocular Microscopes. As per the supply order, PDI was to be carried out, which was not done due to shortage of staff. The Joint Director, NHM brought to notice (February 2019) of KSMSCL that the item supplied did not confirm to the specification. The supplier replaced the items during March 2019.

- KSMSCL placed (June/July 2019) for supply of Child Health Equipment. The agency requested (November 2019) after four months for carrying out PDI.

These are only illustrative cases. Audit further observed that the details of having carried out the PDI were not forthcoming in majority of the instances.

The State Government stated (October 2022) that PDI would be intimated by the supplier when the goods are ready for dispatch and hence, time limit cannot be indicated. However, documentation on PDI should be done before supplying the equipment to the consignee.

The reply cannot be accepted as the PDI should be completed before the maximum time limit prescribed for supply of equipment.

4.5.6 Bio-Medical Equipment Maintenance Project (BMEMP)

The HFWD identified 28,019 biomedical equipment valued ₹316.83 crore in various HIs for providing maintenance for a three-year period. The State Government accorded (December 2016) approval for undertaking the maintenance project at a cost of ₹53.96 crore from NHM funds. KSMSCL invited tenders (August 2017). Two bidders who had quoted 5.03 and 5.47 *per cent* of the cost of equipment were found responsive. The L2 bidder approached the Appellate Authority and Principal Secretary, HFW, alleging that L1 firm had not submitted the requisite proof of turnover. The Appellate Authority stayed (December 2017) the tender. The State Government ordered (July 2018) for retendering the work. The work was retendered (November 2018) and awarded to a firm for ₹22.05 crore (5.90 *per cent* of the tentative cost of the equipment plus GST) plus ₹5.50 crore towards cost of real time monitoring of equipment.

The failure of the Tender Scrutiny Committee to evaluate the tenders properly led to retendering and consequent entrustment of contract at a higher cost. The additional cost involved was ₹1.36 crore per year (in comparison with L2 rate of the first tender) exclusive of taxes. Further, 28,019 equipment were without maintenance for more than 15 months (November 2017 to March 2019).

Audit also observed that the conditions of the tender (Request for Proposal (RFP) formed part of the tender document) were not fulfilled by the firm as below:

- As per conditions stipulated in the RFP Paragraph 2.3.4, it shall be the responsibility of the service provider to indemnify all staff and officers of HFW and ME under this project against any claims, damages, lawsuits, petitions, sufferings and or harm and or death caused to patients, *etc*. These conditions were not complied with as no insurance coverage was taken.

- The asset value stated in the contract was indicative and the actual Biomedical Equipment asset value shall be based on the Biomedical Equipment Infrastructure Library prepared by the Service Provider. Mapping of all the equipment and value of the total equipment was yet to be arrived to fix the correct contract value. As per the proceeding of the review committee meeting
(21 October 2020), tagging and mapping of the equipment at PHC level was yet to be completed. As a result, the indicative value continued to remain the same even after a lapse of 23 months from the date of signing of contract.

- The service provider had identified (February 2021) equipment worth ₹50.95 crore was not working. However, no action was taken to repair the equipment and put it to use.

- The main objective of this project was to provide 95 *per cent* uptime for biomedical equipment. However, no data was kept on record to show that the service provider had met this objective.

- Details of real time monitoring of the biomedical equipment were not forthcoming from the records.

Thus, the maintenance contract was yet to take off completely.

The State Government stated (October 2022) that a committee was constituted under the Chairmanship of Commissioner, HFWS with Managing Director, NHM, Managing Director KSMSCL and State Nodal Officer (SNO), BMEMP to review the implementation of BMEMP in the State. It further stated that penalties would be levied as per contract agreement to the lapses involved in implementation of BMEMP and payments had not been released to the service provider in view of lapses and non-compliance to the contract agreement till date.

Recommendations

8. The State Government should prepare a comprehensive and well laid down policy for procurement and utilisation of essential drugs and equipment in line with IPHS norms and develop a real time inventory monitoring system to address shortages, repairs and maintenance.

9. ***The State Government should consider freezing that batch of medicines, which are taken for quality checks till declaration of the results to prevent consumption of NSQ drugs. It should also consider maintaining buffer stock of all essential drugs and medicines to tide over shortages arising due to freezing of drugs.***

10. ***A robust inventory management system should be implemented to track expiration dates and usage of drugs within the stipulated shelf life.***

11. ***Storage of drugs under conditions prescribed in the Drugs and Cosmetics Rules 1945 to maintain their efficacy should be ensured, before being administered to the patients.***

Chapter - 5
Healthcare Infrastructure

Chapter 5: Healthcare Infrastructure

The State had an excess of Primary Health Centres (PHCs) and a shortage of Community Health Centres (CHCs), with uneven distribution of PHCs within districts. Except for KIMS, Hubballi, no hospitals had assessed the need for repairs/maintenance as per IPHS guidelines. Out of 29 test checked HIs (up to CHC level), 23 had Disaster Management Plan and 20 had Disaster Management Committee to monitor the vulnerable impact of disasters. Six constructed hospital buildings remained unused, resulting in unfruitful expenditure of ₹228.36 crore and depriving the public of specialized services.

5.1 Availability of Health Care Infrastructure

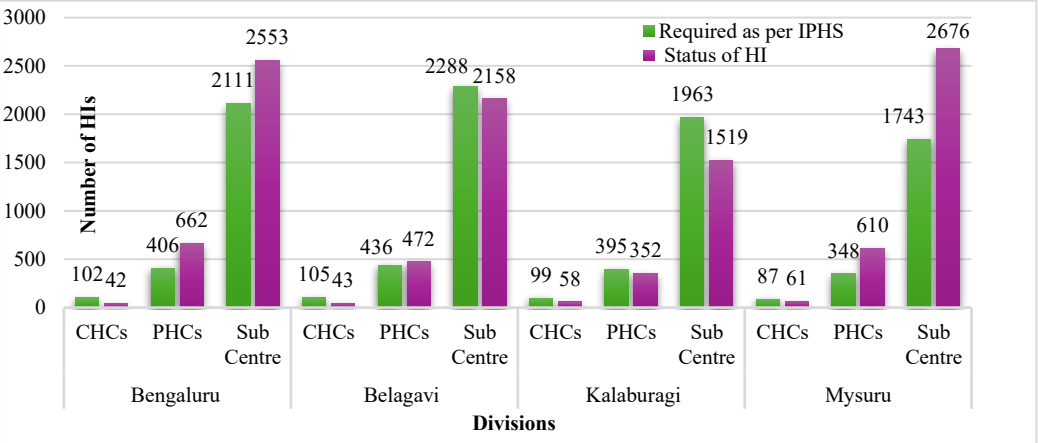
Health care infrastructure constitutes a major component of the structural quality of a health system. It signifies the investment priority with regard to the creation of healthcare facilities. Infrastructure has been described as the basic support for the delivery of public health activities. To deliver quality health services in the public health facilities, adequate and properly maintained building infrastructure is of critical importance.

5.1.1 Availability of CHCs, PHCs, and SCs vis-à-vis prescribed norms.

Currently, there are 10 Super-specialty Hospitals (SS), 17 Teaching Hospitals attached to Medical Colleges (MC), 17 District Hospitals (DHs), 146 Taluk Hospitals (THs), 207 Community Health Centres (CHCs), 2,531 Primary Health Centres (PHCs) and 9,160 Sub-centres (SCs) under the category of Government health facilities in the State.

IPHS norms prescribe one PHC for a population of 30,000 in rural areas and 50,000 in urban areas. Similarly, there has to be one CHC for population of 1,20,000. The district-wise availability of CHCs/PHCs/SCs with reference to projected population of 2020-21 is given in **Appendix 5.1.** Audit noticed that the State had excess PHCs and lesser number of CHCs as per the norms. Though PHCs were in excess, they were unevenly distributed within the districts especially in Belagavi and Bengaluru divisions. The Division wise status is depicted in **Chart 5.1**.

Chart 5.1: Division-wise status of the HIs

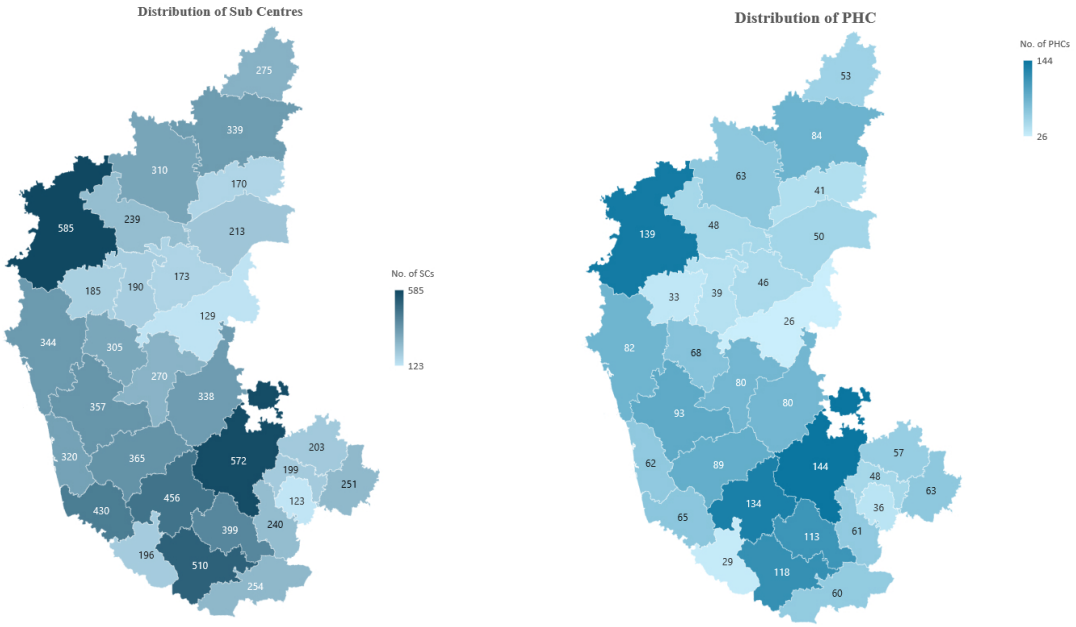


Source: Information furnished by the Department

There was an asymmetric distribution of the Sub-centres in the four Revenue Divisions as excess of the sub-centres were noticed in Bengaluru and Mysuru divisions and shortfall under Belagavi and Kalaburagi divisions. PHCs were in excess of the requirement in all four divisions. Against the requirement of 393 CHCs in the State, only 207 CHCs were available.

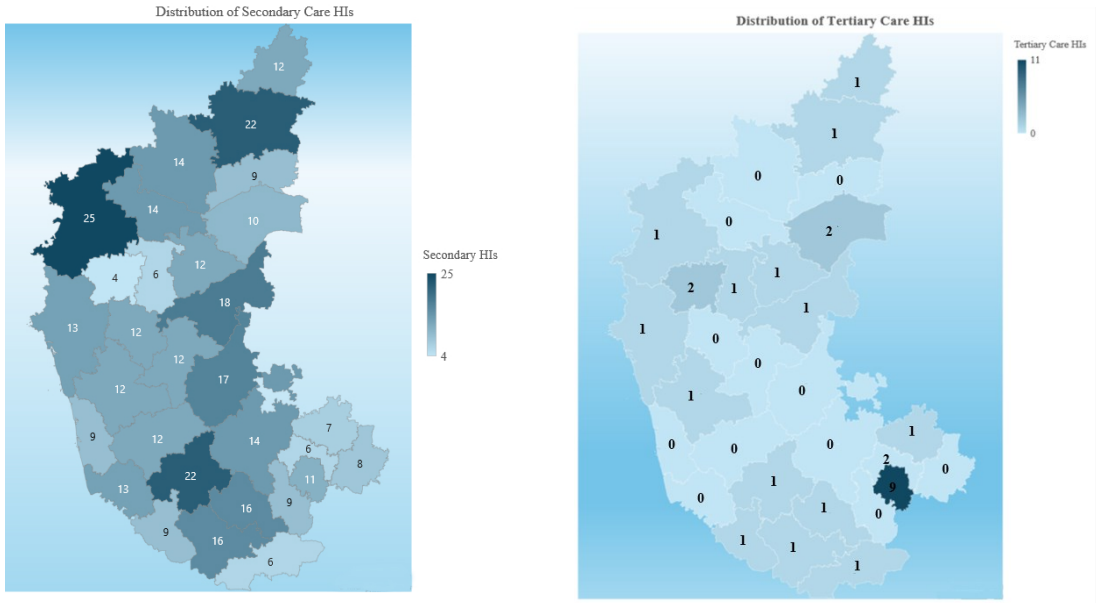
District-wise distribution of healthcare institutions in the State is shown in **Chart 5.2.**

Chart 5.2: Category and district-wise distribution of health institutions in the State



Source: Information furnished by the Department

The availability of the Sub-centres in the State ranged from 123 in Bengaluru Urban District to 585 in Belagavi. PHCs in the State ranged from 26 in Ballari to 144 in Tumakuru.



Source: Information furnished by the Department

The number of THs in the State ranged from two in four districts (Ballari, Kodagu, Udupi and Yadagiri) to 10 in Uttara Kannada. There are 17 DHs in the State. Bengaluru Urban had highest number(nine) of tertiary care HIs whereas twelve districts did not have any tertiary care HI.

Overall, as evident from the above, there was a regional imbalance in distribution of health centres in the State.

Moreover, it was also observed that proposals to set up new health centres (TH-59, CHCs-64, PHCs-59 and SCs-100) were sent to the Government during 2020, the work had not been initiated (March 2022).

The State Government stated (October 2022) that HFWD commenced addressing the deficit in Sub Centres and all Sub-centres were being upgraded to Health and Wellness Centres. Similarly, efforts being made to close the gap in PHCs and proposal to upgrade 48 PHCs to CHCs has already been submitted for approval.

5.2 Infrastructure availability

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

5.2.1 Building Infrastructure

5.2.1.1 Hospital space requirements

IPHS norms for DHs and Bureau of Indian Standards 2001 prescribe the area requirement for HIs. None of the tests checked HIs conformed to these requirements. Hence, building and operational areas were distributed as per the infrastructure available rather than prescribed plan and area. Audit noticed that in two HIs (Indira Gandhi Institute of Child Health (IGICH), Bengaluru and KR Hospital, Mysuru), patient beds were placed in corridors, passage of wards and utility area of staircase.

Beds in the corridors at IGICH, Bengaluru

Beds near the stairs at KR Hospital, Mysuru

The State Government accepted (October 2022) that DHs were upgraded depending upon the availability of area and by utilizing the existing facilities.

5.2.1.2 Non-maintenance of hospitals

Proper upkeep of hospital buildings is critical to ensure availability of a safe, clean and conducive environment to the patients, public and hospital staff. IPHS guidelines provide for assessment and preparation of building maintenance plans for regular upkeep of the hospitals. None of the hospitals except KIMS, Hubballi had assessed the need for repairs/maintenance. The repairs were being carried out on an ad hoc basis. Audit observed during joint inspection the following:

- In KR Hospital, Cheluvamba Hospital and IGICH, the buildings were poorly maintained. Instances of walls infected with fungus, broken toilet doors, open electrical sockets, weeds grown on electric panel boards and IPD wards were observed.
- In Victoria Hospital, scrap items were kept in the bathroom and toilets of Burns ward.

Victoria Hospital Bengaluru

- In THs, Navalgund and Kalaghatagi, the water purifier plants were not in use for want of repairs and replacement of consumables.
- In TH, Kalaghatagi, the toilet doors of the female wards were broken.

The improper maintenance endangers patients' safety in terms of hospital induced infections.

The State Government stated that the Chief Engineer's Office takes up maintenance as and when proposals are approved in the budget. Other repairs and maintenance were done by the respective hospital authorities from the User Charges Funds. However, the action taken to set right the deficiencies in maintenance was not stated.

5.3 Disaster Management

Every HI shall have a Disaster Management Plan (DMP) as envisaged in NHM Assessor's Guidebook. Standard Operating Procedure (SOP) for disaster management should be available and disaster management committee should be constituted to review the plan periodically. Audit noticed that:

- Out of 29 test checked HIs (up to CHC level), 23 had DMP and 20 had Disaster Management Committee to monitor the vulnerability impact of disasters.
- Except Victoria Hospital, none of the test checked HIs had evacuation plans in place in case of emergencies.
- Twenty-six test checked HIs had displayed fluorescent fire exit sign.
- Except the six[61] HIs, other test checked HIs displayed important contact numbers of medical centres, blood banks, fire, police and ambulance services available nearby.

[61] DIMHANS, TH-Sandur, Kalaghatagi, UHC-HDMC Dharwad and PHC-Bodhikote, Kannali.

5.3.1 Non-availability of fire prevention plans and firefighting mechanism

IPHS guidelines envisage that fire hydrants with sand buckets, underground water *etc*., should be available and maintained to tackle fire. The units should obtain NOC from the concerned department as part of statutory compliance. Audit noticed:

- None of the test checked HIs except KIMS, Hubballi and Victoria Hospital had fire hydrants.
- Two HIs (TH KR Puram and CHC Sargur) had no firefighting mechanism in place.
- Forty HIs had fire extinguishers and in 15 HIs[62] they had not been refilled after expiry.
- Except for five HIs[63], none of the other HIs had obtained NOC from the fire department.
- Smoke detectors and smoke alarms were not in place in 41 HIs.
- Fire prevention plan was available only in 11[64] HIs.

The absence of firefighting mechanisms renders evacuation of patients and staff difficult in case of fire disasters.

The State Government stated that gaps pointed out in Audit were being addressed at the HI level to obtain NOC. The document in support of the same was, however, not furnished to Audit.

5.4 Availability of beds in the Health Institutions

In accordance with IPHS norms, the number of beds required for a DH should be based on district's population, bed days per year and bed occupancy rate. The number of beds available in the HIs in the State was in excess of the required number with reference to the projected population of 2020-21. This availability was, however, not commensurate with the availability of manpower and basic amenities in the HIs *viz*., non-availability of doctors, inpatient services, absence of triaging facility and non-availability of drinking water, proper sitting arrangements *etc*. The district-wise availability of beds in the HIs as against the required number with reference to projected population of 2020-21 is given in **Appendix 5.2.**

Though the overall availability of beds was in excess of requirement, the allocation of beds to various facilities such as Intensive Care Units[65] (ICU) within the HIs was not as per the stipulated norms as discussed in **Para 3.3**.

[62] IGICH, SNR DH Hospital, TH - KR Puram and Kalaghatagi, CHC - Gownipalli, Sargur and UPHC Dharwad and PHCs – Badagalapura, Bettadapura, Budikote, Galagi Hulkoppa, Kittur, Morab, Mukkal and Thoppanhalli.

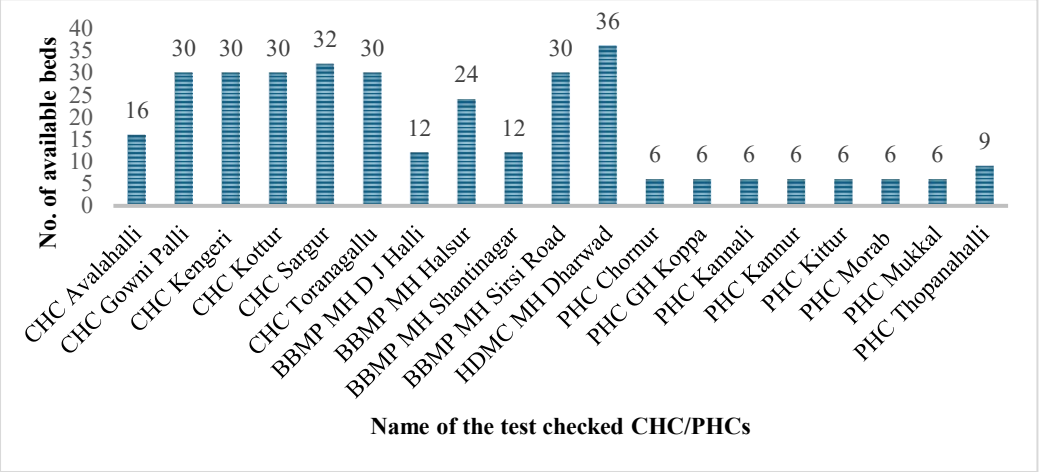
[63] TH bangarpet, HD Kotte, KR Puram,Kodligi, Navalgund.

[64] DIMHANS, IGICH, DHs-Kolar, Ballari, KC General Hospital, THs-Bangarpet, Kalaghatagi, CHCs-Kotturu, Halasuru and PHCs- Kannur, Thoppanhalli.

[65] As per IPHS norms ICU beds should be 5 to 10 *per cent* of the total beds.

The availability of beds in test checked CHCs and PHCs is summarised in **Chart 5.3.**

Chart 5.3: Availability of beds in test checked CHCs/PHCs



Source: Information verified in the test checked HIs as on January 2024

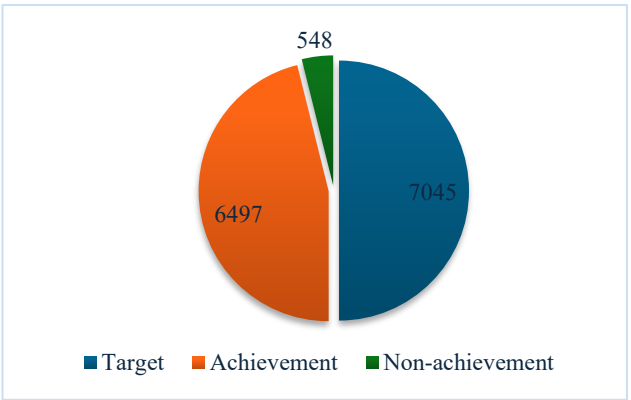
As can be seen from the above except CHCs Avalahalli, BBMP MHs DJ Halli and Shanthinagar, the required number of beds as per IPHS[66] were available.

5.5 Health and Wellness Centres

Under Ayushman Bharat Scheme, creation of Health and Wellness Centres (HWCs) is one of the components to deliver comprehensive range of services spanning preventive, promotive, curative, rehabilitative and palliative care. HWCs are envisaged to deliver an expanded range of services that go beyond Maternal and child healthcare services to include care for non-communicable diseases, palliative and rehabilitative care, oral, eye and ENT care, mental health and first level care for emergencies and trauma, including free essential drugs and diagnostic services.

Achievement of operational HWCs against Target is shown in **Chart 5.4**

Chart 5.4: Target and achievement for HWCs

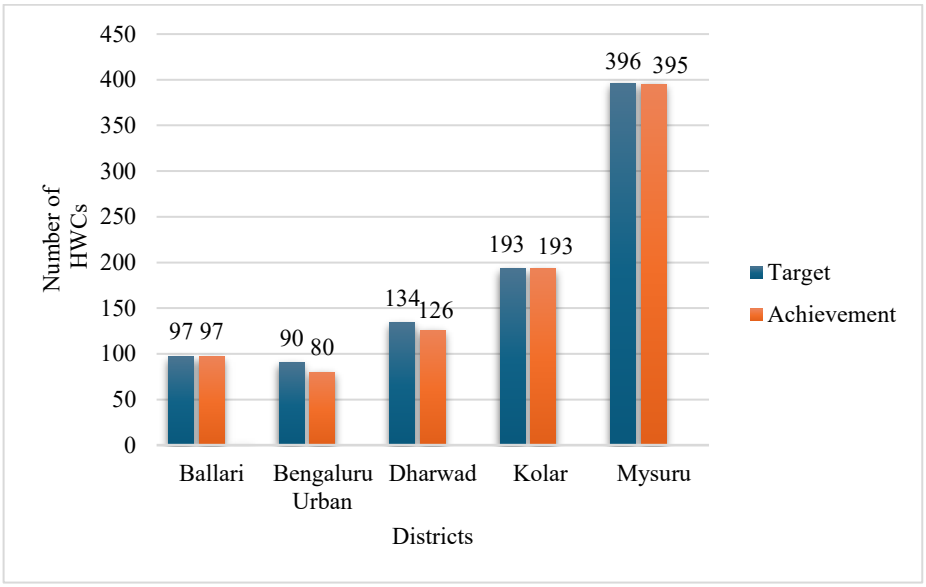


Source: Information furnished by HFWD

[66] 30 beds for CHCs and 6 beds for PHCs

Against the sanctioned 7,045 HWCs, 6,497 (92 *per cent*) were operational (January 2024). The status of HWCs in test checked districts is shown in **Chart 5.5.**

Chart 5.5: Status of HWCs in test-checked districts



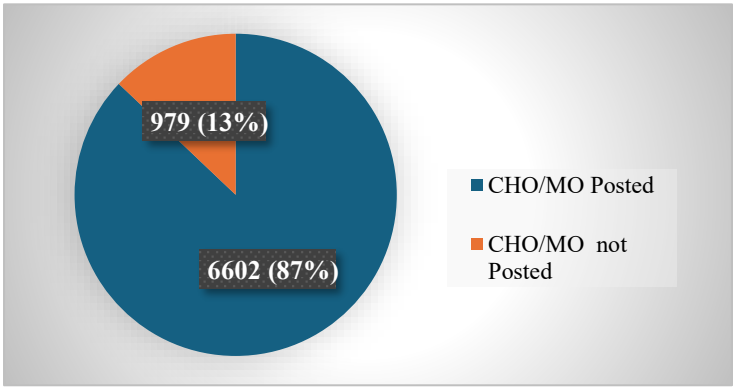
Source: Information furnished by HFWD

It could be seen that the State was more or less able to achieve the targets set for upgrading the existing SCs/PHCs as HWCs indicating significant progress towards overall achievement of the scheme objectives.

5.5.1 Operationalisation of HWCs

Against 7,591 posts of MO/CHO (Medical Officer/Chief Health Officer) sanctioned to the SCs for upgradation as HWCs, 6,602 postings have been filled as of January 2024. Status of posted CHO/MO is shown in **Chart 5.6.**

Chart 5.6: Status of CHO/MO of HWCs

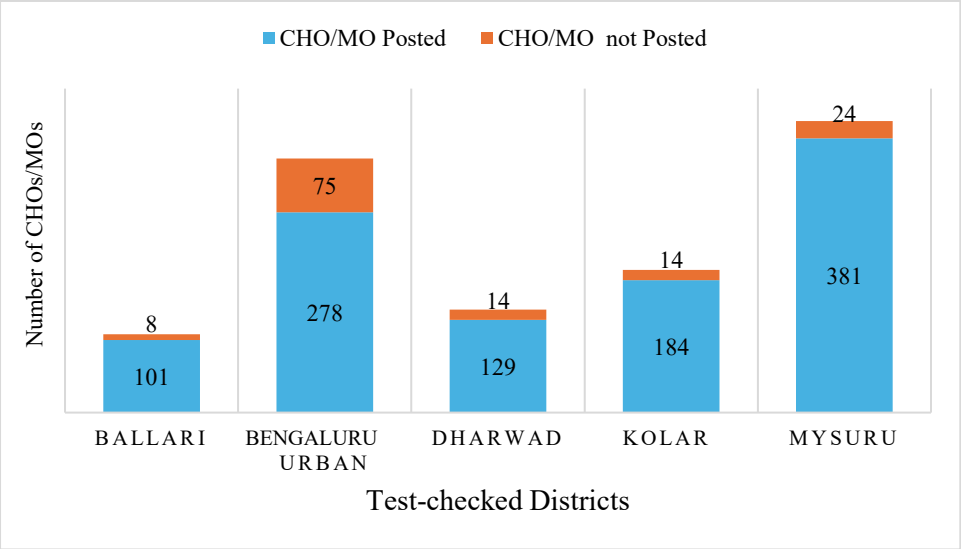


Source: Information furnished by the Department

There was an overall shortage of 979 doctors in the HWCs, which may affect the operationalisation of HWCs.

The status of availability of CHO/MOs in the HWCs in test checked districts is indicated in **Chart 5.7** as shown below:

Chart 5.7: Availability of CHO/MOs in test-checked districts



Source: Information verified in the test checked HIs

As seen from the above, the percentage of vacancies ranged from 07 in Ballari and Kolar districts to 21 in Bengaluru(U) district. Non-availability of doctors compels the patients to move to higher health centres which may result in overburdening the existing infrastructure of the HIs. Further, shortage of the doctors could force the patients to visit private health centres.

5.5.2 AYUSH- Health and Wellness Centres

The National Health Policy 2017 advocates mainstreaming the potential of AYUSH systems within a pluralistic system of integrative healthcare. GoI decided (February 2018) to operationalize 10 *per cent* of the total State Health Centres as HWCs under Ayushman Bharat with a vision to establish a holistic wellness model based on AYUSH principles. The status of the upgraded health centres to HWCs as of May 2023 is shown in **Table 5.1**:

Table 5.1: Upgradation of AYUSH Dispensaries to HWCs

Year	Target set to upgrade Dispensary (GAD/GUD/GHD) to AYUSH - HWCs			No. of Health Centres upgraded to AYUSH-HWCs		
	GAD	GUD	GHD	GAD	GUD	GHD
2018-19	100	-	-	100	-	-
2019-20	1	3	2	1	3	2
2020-21	42	9	19	42	9	19
2021-22	192	7	1	192	7	1
Total	**335**	**19**	**22**	**335**	**19**	**22**

Source: Information furnished by the Department
GAD - Government Ayurvedic Dispensary, GUD - Government Unani Dispensary, GHD - Government Homoeopathic Dispensary

It could be seen from the above table that the target set for upgrading the AYUSH Dispensaries as HWCs was achieved which signifies the development of the existing health centres fulfilling the scheme objectives.

5.6 Infrastructure not put to use appropriately in the health institutes

The State Government sanctioned 3,104 works at a cost of ₹47,566.09 crore during the period 2016-17 to 2021-22. These works comprised both construction of new hospital buildings and major repairs/renovations of existing hospitals. Out of 3,104, only 1,750 works at a cost of ₹32,624.16 crore was completed within one year, the others were completed after more than one year. Age-wise summary of delay in completion of work is summarised in **Table 5.2.**

Table 5.2: Summary of delay in completed works

Period of Delay	No. of civil works	Expenditure incurred (*₹ in crore*)
No. of works completed in time	1,750	32,624.16
No. of works completed with a delay up to one year	795	11,831.80
No. of works completed with a delay beyond one year but up to 2 years	198	134.80
No. of works completed with a delay beyond 2 years	361	2,975.33
Total	**3,104**	**47,566.09**

Source: Information furnished by the HFWD as of January 2024

Audit observed that six buildings constructed were not put to use as shown in **Table 5.3**.

Table 5.3: Details of hospitals constructed and not put to use

Sl. No.	Name of the work	Cost incurred. (₹ in crore)	Date of completion	Handed over	Put to use	Remarks
1	Construction of Trauma Care Centre at Mysuru	54.35	December 2020	Yes	No	The cost incurred includes the cost of equipment. Staff required to run the hospital (379) were not provided. Equipment remaining idle.
2	Construction of Super Specialty Hospital at Mysuru	154.44	December 2020	Yes	No	The cost incurred includes the cost of equipment. Staff required for running the hospital (477) not provided. Equipment remaining idle.
3	Construction of Mother and Child Hospital (MCH) Building at Bannur.	9.50	January 2020	Yes	No	Necessary equipment and staff not provided.
4	Construction of MCH Building at Talakadu	7.85	October 2020	No	No	Building not handed over. Necessary equipment and staff not provided.
5	Construction of Canteen Building, Periyapatna	0.22	March 2018	Yes	No	As the building is located at the rear of the hospital and not easily accessible to the patients, no vendors have come forward to occupy the premises on rent.
6	Renovation of TH at HD Kote, Mysuru	2.00	October 2021	No	No	The contractor has not handed over the building even after three years.
Total		**228.36**				

Source: Information furnished by Engineering wing of HFWD for the period 2016-22

Equipment lying idle at Super Specialty Hospital, Mysuru

The non-utilisation of the buildings resulted in unfruitful expenditure of ₹228.36 crore and non-availability of specialized services to patients. This also highlights the absence of proper assessment and planning by the State Government.

The State Government replied (October 2022) that necessary equipment had been supplied to MCH at Bannur and Talakadu during May/June 2022 and human resource had been sanctioned (August 2022) and placements would be done soon.

It is evident from the reply that the hospitals were yet to commence functioning. No reply was furnished in respect of the other works.

5.7 Non-creation of adequate infrastructure

PHC, Avalahalli was upgraded to CHC in 2012. Even after a decade, the hospital continued to operate in the old PHC building as no additional facilities were created, which resulted in not providing inpatient services except Antenatal Care services. Non-upgradation of facilities resulted in non-operationalisation of OT despite the availability of anaesthetist and OT equipment. Due to non-operationalisation the health centre, the anaesthetist was posted to TH, KR Puram. Further, against the sanctioned bed strength of 30 beds, only six beds were functional, the shortage being 80 *per cent*. The upgradation, thus, remained only on paper and could not serve the intended purpose.

5.8 Establishment of Medical Colleges

Department of Medical Education established one Super Specialty Hospital (Institute of Gastroenterology, Bengaluru) and four Medical Colleges (Yadagiri, Chikkamagaluru, Haveri and Chikkaballapura) during the period 2016-22. There are 29 existing medical colleges. Details of HIs set up after two to four years of approval as detailed in the **Table 5.4.**

Table 5.4: Establishment of Medical Colleges

Name of the Medical College	Year of Approval	Year of Establishment
Institute of Gastroenterology, Bengaluru	2016-17	October-2021
Chikkaballapura Medical College	2019-20	February-2022
Chikkamagaluru Medical College		August-2022
Haveri Medical College		
Yadagiri Medical College		

Source: Information furnished by the Department

Recommendations:

12. ***The State Government should address the regional imbalance in terms of availability of Government HIs.***

13. ***The State Government should make a comprehensive plan for determining the requirements and providing the requisite infrastructural facilities in HIs.***

14. ***The State Government should put in place necessary procedures and provisions for effective utilisation of available infrastructural facilities to achieve the intended benefits in order to deliver quality health services.***

15. ***The State Government should direct the HIs to set up a dedicated Disaster Management Committee for preparation and implementation of a disaster management plan for prevention, mitigation and response to ensure minimal damage in the event of any disasters.***

Chapter - 6

Adequacy of funds for the healthcare sector

Chapter – 6: Adequacy of funds for the healthcare sector

The State Government allocated a lower budget to the healthcare sector compared to the National Health Policy recommendation (averaging 4.28 *per cent* against 8 *per cent*). Even the allocated funds were not fully utilized by the departments. Significant amounts remained unutilized in institutions despite funds being released. There were delays in the release of matching shares for the National Health Mission by the State Government, ranging from 32 to 359 days in 2016-17 and 38 to 140 days in 2020-21.

Any health system requires that the available public funds be directed to organisations in line with its objectives. Such funding seeks to give governments and health authorities both the financial capacity and the incentive to fulfil their objectives.

The State Government provides budget for salary of staff, procurement of drugs, equipment and other miscellaneous items required by various HIs under the head of account "2210-Health" and releases these funds to the HIs through the departments concerned. Further, departments receive funds from the Government of India (GoI) under National Health Mission (NHM) with corresponding share from the State Government. Besides this, HIs having less than 100 beds receive funds from Zilla Panchayats (ZP) under the district sector.

6.1 Financial Assessment

The information regarding preparation of budget estimates as per the demands/ requirements of the HIs submitted to the Head offices were not on record/furnished to Audit. Therefore, Audit could not ensure the adequacy of the funds released to the HIs. NHP 2017 stipulated allocation of eight *per cent* of the total budget provision of the State for Health Sector. It was observed that the State Government did not provide budget allocation to the healthcare Sector in accordance with the National Health Policy as indicated below:

6.1.1 Funds under State Budget

The overall budget allocation and the actual expenditure thereon under the health sector during the period 2016-17 to 2021-22 is shown in **Table 6.1**.

Table 6.1: Budget allocation and expenditure

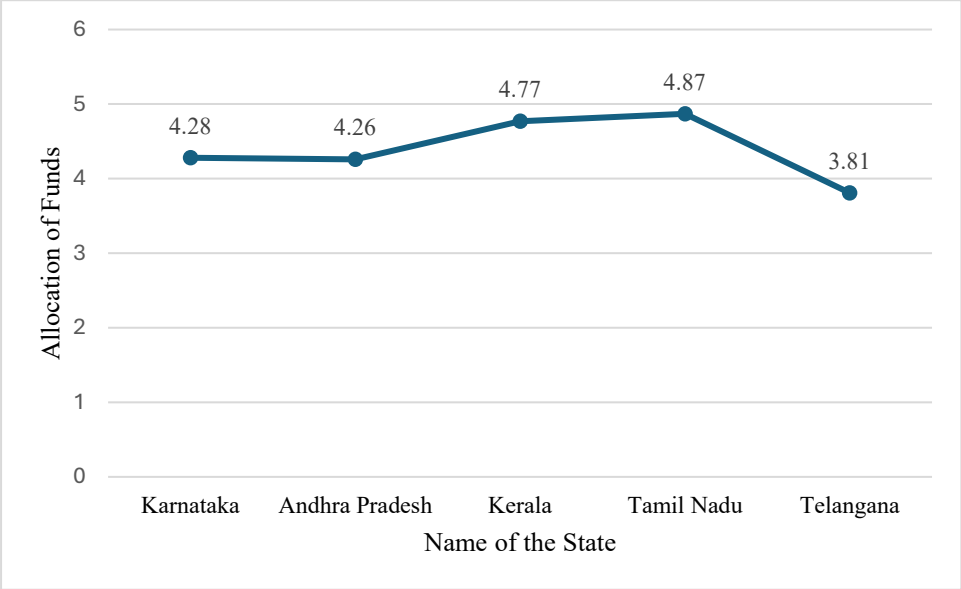
(₹ in crore)

Year	Total budget	Releases			Expenditure			Savings
		Capital	Revenue	Total	Capital	Revenue	Total	
2016-17	1,86,052.34	772.74 (0.42)	6,454.62 (3.47)	7,227.36 (3.88)	743.84 (96.26)	5,849.61 (90.63)	6,593.45 (91.23)	633.91 (8.77)
2017-18	2,09,479.50	1,162.04 (0.55)	7,071.11 (3.38)	8,233.15 (3.93)	1,132.53 (97.46)	6,667.20 (94.29)	7,799.73 (94.74)	433.42 (5.26)
2018-19	2,45,673.07	1,356.47 (0.55)	8,498.26 (3.46)	9,854.73 (4.01)	1,107.98 (81.68)	8,070.82 (94.97)	9,178.80 (93.14)	675.93 (6.86)
2019-20	2,63,804.67	1,072.35 (0.41)	8,756.79 (3.32)	9,829.14 (3.73)	821.98 (76.65)	8,000.79 (91.37)	8,822.77 (89.76)	1,006.37 (10.24)
2020-21	2,65,220.73	2,432.08 (0.92)	10,146.21 (3.83)	12,578.29 (4.74)	2,099.58 (86.33)	9,626.60 (94.88)	11,726.18 (93.23)	852.11 (6.77)
2021-22	2,93,185.31	2,679.74 (0.91)	13,173.89 (4.49)	15,853.63 (5.41)	2,574.94 (96.09)	12,302.39 (93.38)	14,877.33 (93.84)	976.30 (6.16)
Total	**14,63,415.62**	**9,475.42**	**54,100.88**	**63,576.30**	**8,480.85**	**50,517.41**	**58,998.26 (92.80)**	**4,578.04 (7.20)**

Source: Finance and Appropriation Accounts; Figures in parenthesis indicate per cent

- The increase in allocation during 2020-21 and 2021-22 can be attributed to COVID pandemic. Further, with respect to the average allocation during the period 2016-17 to 2021-22, Karnataka stood third amongst the five Southern States as shown in **Chart 6.1**.

Chart 6.1: Status of allocation amongst the Southern States



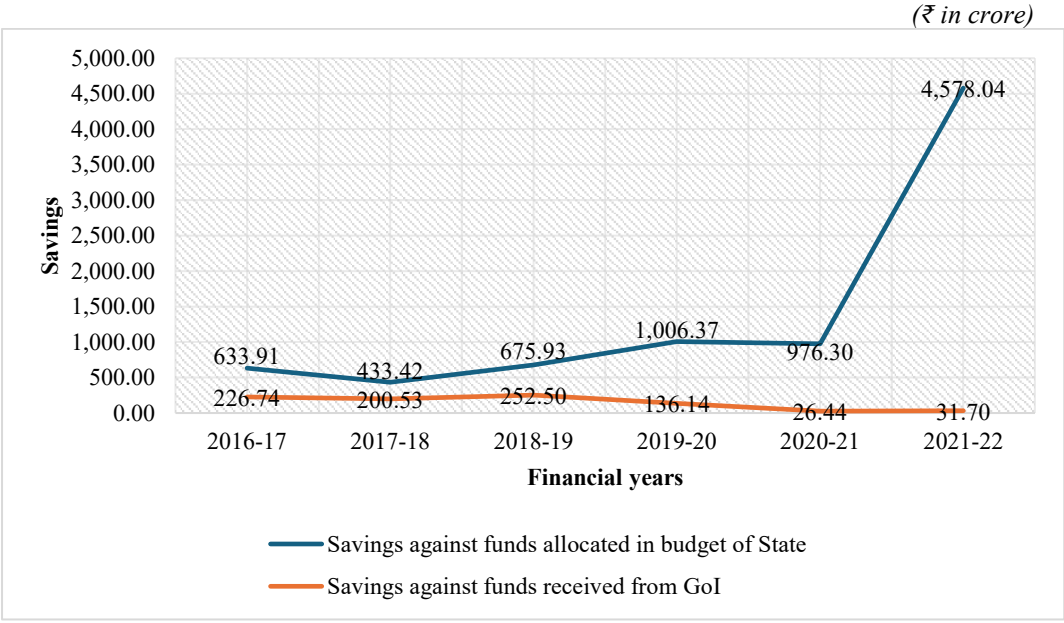
Source: Finance and Appropriation Accounts of respective States.

- The capital expenditure during the above period ranged between 9.32 and 17.91 *per cent* of the total expenditure.
- Despite the budget allocation being less than that prescribed under NHP, Audit noticed that the releases made were also not utilised fully by the departments concerned.

  The details of the savings against budget provision are shown in **Chart 6.2.**

Chart 6.2: Savings against Total Budget Provision

(₹ in crore)



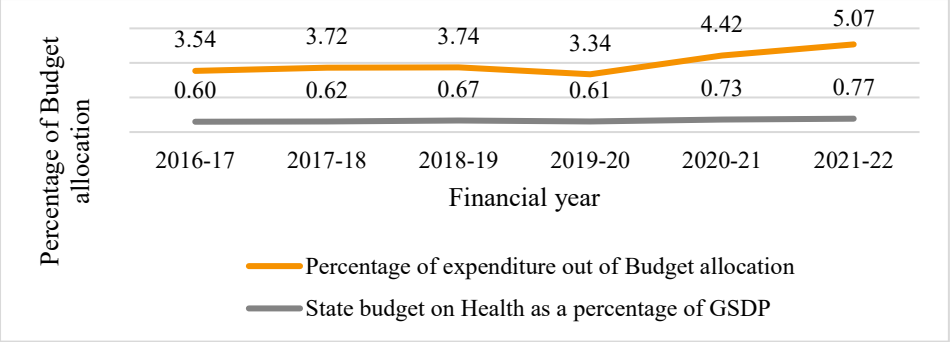
Source: Information furnished by the Department

The State Government stated (October 2022) that some of the programmes were not implemented due to technical issues which resulted in savings. The nature of the technical issues and action taken to set them right were, however, not stated.

6.2 Expenditure on Health Sector by the State *vis-a-vis* National Health Policy norms

The average release of funds for the health sector during the period 2016-17 to 2021-22 was 4.28 *per cent* of the total budget of the State, against 8 *per cent* stipulated by NHP. The NHP 2017 also envisaged the States to increase their health expenditure, as a percentage of Gross State Domestic Product (GSDP), from the existing 1.15 *per cent* to 2.5 *per cent* by 2025. Against this benchmark, the State's expenditure on health sector ranged between 0.60 and 0.77 *per cent* of GSDP[67] during the period 2016-22 as shown in **Chart 6.3.**

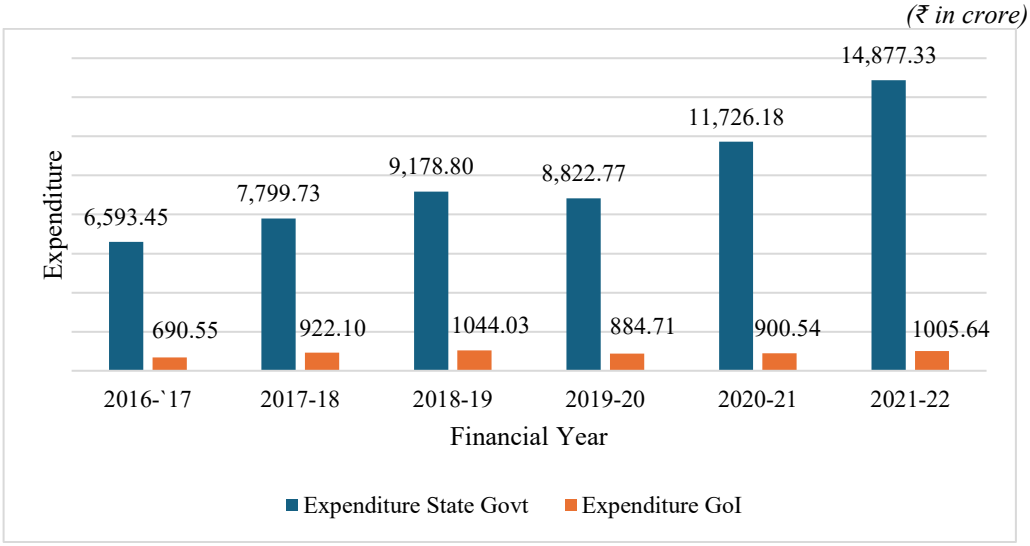
Chart 6.3: Percentage of expenditure on health compared to GSDP of State



Source: Finance and Appropriation Accounts of respective years

Chart 6.4: Status of expenditure on health sector under GoI and State Government

(₹ in crore)



Source: Information furnished by the Department

[67] 2016-17 – 12,08,000 crore; 2017-18 – 13,33,000 crore; 2018-19 – 14,76,000 crore; 2019-20 – 16,15,000 crore; 2020-21 – 17,31,000 crore and 2021-22 – 20,49,000 crore.

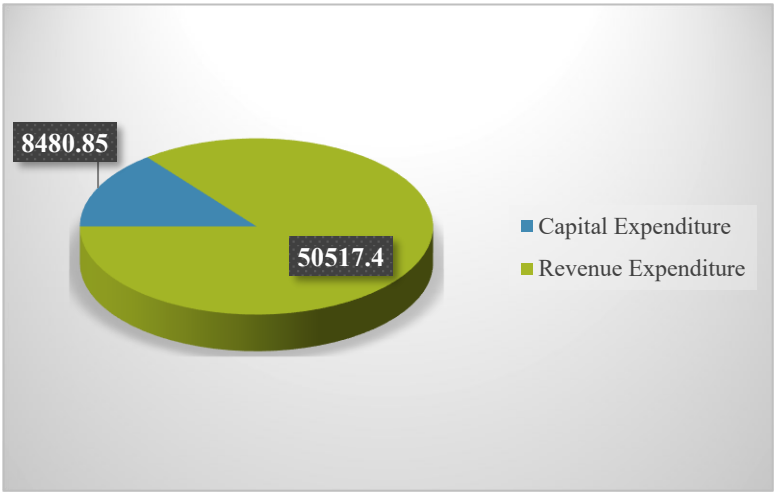
As seen from **Chart 6.4**, the State sector health spending increased from ₹6,593.45 crore to ₹14,877.33 crore during the period 2016-22 with an increase of more than 100 *per cen*t, whereas the GoI spending increased from ₹690.55 crore to ₹1,005.64 crore with an increase of 45 *per cent*.

6.3 Revenue and Capital Expenditure

Though 14 *per cent* of the total expenditure outlay towards health sector was expended towards assets/infrastructure creation, Audit observed that infrastructure/assets created were not fully operationalised in the test checked HIs due to various reasons as discussed in Chapters 3 and 4.

Chart 6.5: Capital Expenditure *vis-à-vis* Revenue Expenditure (2016-17 to 2021-22)

(₹ in crore)



Source: Finance and Appropriation Accounts.

6.4 Budget allocation and expenditure on important components under National Health Mission

National Health Mission (NHM), launched by the Government of India (GoI) in 2005, envisaged achievement of universal access to equitable, affordable and quality healthcare services. Under this Scheme, funds are released to the Mission Director, NHM by GoI and the State Government. GoI releases its share of the funds based on the approved State Programme Implementation Plans. The year-wise receipt of funds and expenditure incurred thereon during the period 2016-17 to 2021-22 is indicated in **Table 6.2**.

Table 6.2: Receipts and expenditure under NHM

(₹ in crore)

Year	Opening Balance	Funds released		Interest	Total funds available	Expenditure	Unspent Balance
		GoI	GoK				
2016-17	644.73	652.93	578.03	29.31	1,905.00	1,039.68	865.32 (45)
2017-18	865.32	1,099.58	734.29	23.54	2,722.73	1,893.53	829.20 (30)
2018-19	829.20	1,201.52	738.18	31.02	2,799.92	1,907.54	892.38 (32)
2019-20	892.38	1,100.16	679.93	26.63	2,699.10	2,156.94	542.16 (20)
2020-21	542.16	1,139.62	865.70	16.31	2,563.79	2,088.95	474.84 (19)
2021-22	474.84	1,376.42	922.61	0	2,773.87	2,089.20	684.67 (25)
Total		**6,570.23**	**4,518.74**	**126.81**		**11,175.84**	

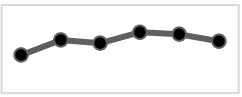
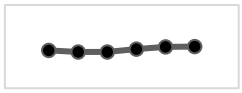
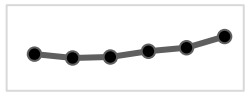
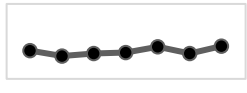
Source: Information furnished by NHM, Karnataka; Figures in parenthesis are in percentage

Though the State had utilised around 94 *per cent* of the funds available under the scheme during the period 2016-17 to 2021-22, the unspent balances during each year ranged between 19 to 45 *per cent* of the total funds available.

6.4.1 Budget allocation and expenditure on important components under National Health Mission

Budget allocation and expenditure incurred on important components under NHM during the period 2016-17 to 2021-22 are shown in **Table 6.3.**

Table 6.3: Budget allocation and expenditure on important components under NHM

Name of Scheme	Total Budget Available from 2016-17 to 2021-22	Total Expenditure from 2016-17 to 2021-22	Percentage of Total expenditure to budget	Percentage Utilisation						Sparkline for five years from 2016-17 to 2021-22
				2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	
NRHM RCH Flexipool	11203	7483	67	48	67	63	77	74	65	
NUHM Flexible pool	920	679	74	68	57	57	79	97	100	
NVBDCP	175	57	33	28	12	17	39	52	96	
RNTCP	432	292	68	59	63	47	78	66	93	
NLEP	41	35	85	68	76	79	98	76	100	
IDSP	36	25	69	86	71	52	89	43	74	

Source: Details furnished by NHM

6.4.2 Funds under district sector

The HIs were receiving funds under district sector both from the Head Office and the District Offices. There was no mechanism within the HFW to ascertain the amount of funds received from the Zilla Panchayats and directly routed through the district offices to the HIs. Hence, consolidated information on the amount of funds received under the district sector was not available.

6.4.3 Funding by Private Health Care Sector

No mechanism to collect and monitor the existing/future expenditure and investments made in private healthcare as per NHP 2017 was found. Further, no records were found/furnished regarding collaboration with private healthcare sector of the State to make healthcare system more effective, efficient, rational, safe, affordable, and ethical as stipulated in the NHP 2017. Though activities under Corporate Social Responsibility (CSR) were observed in few test checked

HIs, the department had not taken effective efforts/steps for seeking funds under CSR.

The State Government stated (October 2022) that the private hospitals were actively involved in providing curative services under AB-Ark scheme and had helped in achieving high target of testing COVID-19 samples. It further stated that HFWD had tapped support under CSR and encouraged CSR contributions. However, the data in support of the same was not furnished to Audit.

6.4.4 Unutilised amounts lying outside the Government account

Funds being released to the institutions entrusted with the responsibility of implementing the schemes are treated as expenditure in the books/accounts of the Government. Audit, however, observed huge amounts lying unutilised with the institutions as shown below:

(a) *Karnataka State Medical Supplies Corporation Limited (KSMSCL)*

HFWD released funds amounting to ₹3,343.05 crore to KSMSCL during the period 2016-17 to 2021-22 against which KSMSCL had utilised ₹2,185.34 crore leaving an unspent amount of ₹1,157.71 crore.

(b) Suvarna Arogya Suraksha Trust

The Suvarna Arogya Suraksha Trust (SAST) is the nodal agency for implementing the Ayushman Bharat-Arogya Karnataka Scheme in the State. As of the end of March 2022, SAST had an outstanding balance of ₹169.17 crore in its accounts. The retention of unutilised funds outside the Government account resulted in overstatement of actual expenditure on health.

6.4.5 Non-utilisation of funds by Directorate of AYUSH

The Directorate of AYUSH is responsible for providing healthcare services in the State. The Directorate receives funds from GoI under the National AYUSH Mission (NAM) and from the State Government. Audit noticed that as against ₹123.24 crore received under NAM during the period 2016-17 to 2021-22, ₹95.94 crore was utilised. The balance ₹27.81 crore could not be utilised due to non-receipt of detailed indents and non-receipt of Utilisation Certificates from implementation agencies, ongoing recruitment of staff for new Health and Wellness Centres *etc*.

Further, as against the release of ₹977.79 crore from State Government during the above period, the Directorate could utilise ₹901.39 crore and the balance ₹76.42 crore was lapsed.

6.5 Delay in release of funds to implementing agencies

NHM launched by the Government of India (GoI) in 2005, envisaged achievement of universal access to equitable, affordable and quality healthcare services. Under this Scheme, funds are released to the Mission Director, NHM by GoI and the State Government. GoI releases its share of the funds based on the approved State Programme Implementation Plans.

There was a delay in release of matching shares by the State Government ranging from 32 to 359 days in 2016-17 and 38 to 140 days in 2020-21.

Recommendations

16. The State Government should consider enhancing the budget allocation of the Health Sector to meet the NHP target.

17. The State Government should ensure that funds are released timely as per allocation and completely utilised to address the gap in the existing health facilities.

18. The State Government may review the funds lying outside the Government accounts and issue instructions for the timely utilization of the funds for the intended purpose.

Chapter - 7

Implementation of Centrally Sponsored Schemes

Chapter - 7: Implementation of Centrally Sponsored Schemes

The utilisation of funds for Kayakalp and LaQshya initiatives was inadequate, leading to fewer healthcare institutions obtaining certification. The budget provision for NMHP remained largely underutilized, ranging from 60 *per cent* to 87 *per cent* expenditure. Specifically, out of ₹14.71 crore released for LaQshya under NHM until 2021-22, only 8.6 *per cent* (₹1.27 crore) was spent. Health institutions partially utilised funds allocated under PMJAY in test checked HIs.

Health being a State subject, the Central Government supplements the efforts of the State Governments in delivery of health services through various schemes of primary, secondary and tertiary care. The following central sector and sponsored schemes are being implemented in the State:

- National Health Mission (NHM)
- Ayushman Bharat (AB-ArK)
- National AIDS Control Programme (NACP)

The issues relating to NHM and AB-ArK are discussed in succeeding paragraphs.

7.1 National Health Mission (NHM)

The National Health Mission (NHM) encompasses its two Sub-Missions, the National Rural Health Mission (NRHM) and the National Urban Health Mission (NUHM). The main programmatic components include Health System Strengthening, Reproductive-Maternal- Newborn-Child and Adolescent Health (RMNCH+A), and Communicable and Non-Communicable Diseases. The NHM envisages the achievement of universal access to equitable, affordable and quality healthcare services that are accountable and responsive to people's needs.

The implementation of selected programs in the State under NHM is discussed in the succeeding paragraphs.

7.1.1 Kayakalp Programme

Kayakalp scheme was launched (May 2015) to appreciate and recognise the positive effort shown by various hospitals and community health centres at district and state levels towards a greater hygienic and pure environment. The objectives of the scheme were to promote better hygiene, infection control, waste management and sanitation practices; acknowledge and reward the noteworthy performances of public healthcare facilities; peer review and ongoing assessment culture to improve the facilities furthermore and to create and share feasible strategies for enhancing the quality of services offered by healthcare centres around the nation. Starting from District Hospitals in 2015, the scheme was extended to PHCs (2016), Urban Health Facilities (2017) and Sub Centre level Health and Wellness Centre (2019).

During the period from 2016-17 to 2021-22, ₹20.25 crore was utilised against the receipt of ₹43.57 crore under the scheme. The HIs which received the award increased from 103 (2016-17) to 900 (2020-21). The peer assessment for the year 2021-22 was yet to be completed. The status of HIs that have undergone internal, peer and external assessment since inception is given in **Table 7.1**.

Table 7.1: Status of health institutions under Kayakalp scheme

Financial Years	Target for Kayakalp Award	Internal Assessment	Peer Assessment	External Assessment	Awards
2015-16	04	20	13	09	04
2016-17	333	2,587	704	222	103
2017-18	296	2,667	1251	546	290
2018-19	466	2,805	1423	781	479
2019-20	781	2,816	1467	837	611
2020-21	890	3,316	1541	941	900
2021-22	895	5,742	-	-	-

Source: Information furnished by HFW

The State Government replied (October 2022) that the number of awards were not high as many of the facilities were converted to COVID screening centre, quarantine centres, COVID Care Centres (CCC), Dedicated COVID Health Centres (DCHC) and Dedicated COVID Hospitals (DCH). Further, the staff were deputed for COVID work, which reduced the hospital's regular activities. It further stated that steps such as orientation of stakeholders on Kayakalp, quarterly monitoring of Kayakalp implementation and training of hospital service providers would be taken to ensure more facilities qualify for the award.

7.1.2 Achievement under National Quality Assurance Programme

The National Quality Assurance Programme (NQAP) is a comprehensive quality improvement programme for public healthcare facilities. National Quality Assurance Standards (NQAS) developed as part of NQAP are currently available for District Hospitals, CHCs, PHCs and Urban PHCs. The NQAS are broadly arranged under eight "Areas of Concern" - Service Provision, Patient Rights, Inputs, Support Services, Clinical Care, Infection Control, Quality Management and Outcome. These are primarily meant for providers to assess their own quality for improvement through pre-defined standards and to bring up their facilities for certification. The Quality Certification programme for public health facilities was launched to recognise good preforming facilities as well as improving credibility of public hospitals in the community. Certification is provided against NQAS on meeting pre-determined criteria. Certified facilities are also provided financial incentives as recognition of their good work. The Quality Assurance division under NHM is responsible for maintenance of quality related aspects of all public healthcare facilities. In Karnataka, implementation of Quality Assurance Programmes (QAP) began in 2015-16. The status of achievement under NQAS certification in the State during the period from 2016-17 to 2022-23 is given in **Table 7.2**.

Table 7.2: Number of health facilities (category wise) receiving NQAS certification in the State

FY	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
SS/MC	0	0	0	0	0	0	0	0
DH	0	3	3	0	0	27	12	45
TH	0	0	0	0	0	1	26	27
CHC	0	0	0	0	0	27	17	44
UCHC	0	0	0	0	0	0	6	6

FY	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
PHC	0	0	0	0	0	66	33	99
UPHC	0	0	0	3	0	22	43	68
Total	**0**	**3**	**3**	**3**	**0**	**143**	**137**	**289**

Source: Information furnished by HFW

It was noticed that the number of awardee institutions has increased from 3 in 2017-18 to 137 in 2022-23. However, the fact remains that most of the hospitals were yet to achieve the required level of parameters as per NQAS.

Status of achievement of NQAS certification in test checked districts is shown in **Table 7.3.**

Table 7.3: Number of health institutions achieved NQAS in test-checked districts

Type of Health Institutions	Ballari		Bengaluru Urban		Dharwad		Kolar		Mysuru	
	No. of HIs	NQAS certified HIs	No. of HIs	NQAS certified HIs	No. of HIs	NQAS certified HIs	No. of HIs	NQAS certified HIs	No. of HIs	NQAS certified HIs
SS/MC	1	0	13	0	2	0	0	0	2	0
DH	1	1	9	3	1	0	1	1	3	0
TH	2	0	9	4	3	1	4	2	6	2
CHC	6	1	3	2	0	0	2	1	8	1
UCHC	0	0	0	0	1	0	0	0	2	1
PHC	30	3	139	4	34	5	63	9	118	3
UPHC	9	4	0	0	19	5	9	2	23	4
Total	49	9	173	13	60	11	79	15	162	11

Source: Information furnished by HFWD

It is evident from the table that out of 523 HIs, only 59 received NQAS certification in the test checked districts.

7.1.3 Labour Room and Quality Improvement Initiative (LaQshya)

LaQshya Programme was launched in 2017 to improve quality of care in Labour Rooms and OTs in Government HIs. It is a targeted approach towards reducing maternal and neonatal mortalities. In Karnataka, LaQshya is being implemented (April 2018) in 124 facilities. As of March 2022, 67 HIs have obtained State Certification and 34 HIs have obtained National Certification.

Fund amounting to ₹14.71 crore was released for LaQshya under NHM till 2021-22. However, only 8.6 *per cent i.e.*, ₹1.27 crore was incurred during the period.

The State Government stated (October 2022) that as of 25 October 2022, 46 HIs had obtained National Certification and 73 HIs had obtained the State Certification. It further stated that various steps such as assessment of facilities, gap classification and addressal in time bound manner, State and National assessment *etc*., were being taken to achieve *cent per cent* LaQshya certification by the end of the financial year.

7.1.4 National Mental Health Programme

The GoI had launched the National Mental Health Programme (NMHP) in 1982, to ensure the availability and accessibility of minimum mental healthcare for all and to encourage the application of mental health knowledge in general

healthcare. The District Mental Health Programme (DMHP) was launched under NMHP in 1996 for early detection and treatment, imparting training to the doctors and health workers *etc*.

DMHP was implemented in all the 30 districts of the State and BBMP. 10 taluks were covered under Taluka Mental Health Programme. A total of 45.11 lakh patients had benefitted from this scheme from 2015-16 till October 2021.

NMHP was implemented in two phases. DIMHANS, Dharwad had received financial assistance of ₹8.33 crore under Phase I. Under Phase II of the programme, GoI released (December 2021) ₹3.28 crore to the State Government. The State was to release these funds along with its share. No releases have been made so far. The non-release of funds impacted upgradation of infrastructure *viz*., EEG lab, Sleep lab, Polygraph, Resuscitation equipment, Neuropsychology lab equipment and tests *etc*., in DIMHANS, Dharwad.

The State Government did not offer any comments.

Good practice

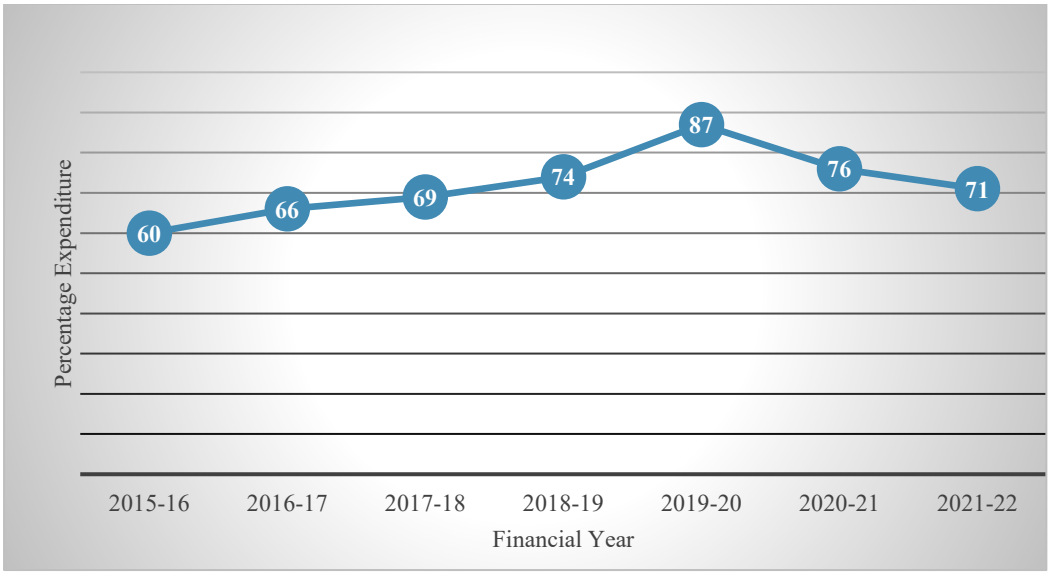
Mano Chaitanya (Super Tuesday clinic) Programme is a unique initiative of the State Government. Under this programme, Psychiatrist from DMHP/TMHP provide specialist Services to the mentally ill at the THs on selected Tuesdays. In the year 2020-21, this programme was functional in all taluks of the State and catered to the needs of 1.44 lakh patients. Music therapy to the mentally ill patients had been provided at DIMHANS since July 2021. Institute also started Manasadhara Kendra during October 2017 for rehabilitation of the cured patients. Under this, vocational courses such as mat making, tailoring, knitting, candle making, woollen decorative items making, file making etc., were provided to the patients.

7.1.4.1 Non-utilisation of funds under National Mental Health Programme

The National Mental Health Programme **(**NMHP**)** aims to provide minimum mental healthcare for all, particularly focusing on disadvantaged and vulnerable groups. It promotes applying mental health knowledge in general healthcare and social development.

The budget provision towards NMHP had not been utilized fully as the expenditure ranged from 60 to 87 *per cent* which is detailed in **Chart 7.1.**

Chart 7.1: Expenditure Percentage under NMHP in State of Karnataka



Source: KHP 2021-22

Implementation of National Mental Health Programme in test checked HIs is summarised in **Table 7.4.**

Table 7.4: Implementation of National Mental Health Programme in test checked health institutions

Sl. No.	Particulars	DHs (3)	TH (10)	CHC (11)
1	Whether provisions of Outpatient services for walk-in patients and patients referred by the PHC is provided?	3	8	7
2	Whether early identification, diagnosis, and treatment of common mental disorders (anxiety, depression, psychosis, schizophrenia, Manic Depressive Psychosis) are available?	3	8	7
3	Whether inpatient services are available for emergency psychiatric illness?	3	3	1
4	Whether counselling services are provided by the Clinical Psychologist/Trained Psychologist?	3	9	2
5	Whether continuing care and support are provided to patients with Severe Mental Disorder (SMD) (This includes referral to District Hospital for SMD patients and follow up based on treatment plan drawn up by the Psychiatric at the District Hospital)?	3	9	5

Source: Information furnished by HFW

Audit analysis of the above revealed that NMHP was not implemented well in test checked CHCs. Out of 10 test checked THs, emergency psychiatry illness patient services were available in three THs (KR Puram, Kudligi and Sandur) only.

Non-availability of Mental Health drugs in the test checked HIs ranged from 06 to 100 *per cent* as detailed in **Table 7.5.**

Table 7.5: Availability of Mental Health Drugs in the test checked health institutions

Type of health facilities	Range of Shortfall (*per cent*)
DH (3)	48 to 59
TH (10)	15 to 59
CHC (11)	06 to 100
PHC (14)	23 to 76

Source: Information verified in the test checked HIs.

7.1.5 Rashtriya Kishor Swasthya Karyakrama (RKSK)

The Rashtriya Kishor Swasthya Karyakrama was launched by Ministry of Health and Family Welfare (MoHFW) on 7 January 2014 for adolescents, in the age group of 10-19 years. To guide the implementation of this programme, the MoHFW developed a National Adolescent Health Strategy. It realigns the existing clinic-based curative approach to focus on a more holistic model, based on a continuum of care for adolescent health and developmental needs. This scheme can be mapped to indicator 3.7.2 of SDG 3 which deals with adolescent birth rate.

RKSK (AH) programme was implemented (2016-17) in Karnataka in eight high priority districts - Bagalakote, Ballari, Gadag, Kalaburagi, Koppal, Raichur, Vijayapura and Yadagiri. For the year 2020-21, eight new districts - Bidar, Chamarajanagar, Chikkamagaluru, Chitradurga, Dakshina Kannada, Kolar, Kodagu and Tumakuru were included under the program. The department had incurred ₹45.42 crore under the scheme during the period from 2016-17 to 2021-22, out of the approved financial allocation of ₹89.90 crore. The status of the achievement against the targets set for the State to cover the adolescent population are detailed in **Table 7.6.**

Table 7.6: Status of the Achievements against the Targets for 2016-22

Year	Target	Achievement	Percentage of achievement
2016-17	3,994	3,102	78
2017-18	8,384	6,819	81
2018-19	4,801	2,525	53
2019-20	4,730	3,954	84
2020-21	5,692	3,263	57
2021-22	4,764	4,158	87

Source: Information furnished by HFWD.

The achievement of the targets by the districts was not consistent. Audit observed that the shortfall in achieving the target was attributable to the following reasons:

- Shortage of human resources as the recruitment of Adolescent Health coordinators and counsellors was an issue at the District Level.
- Non-supply of sanitary napkins to adolescent girls.
- Delay in procurement of Iron and Folic Acid – Weekly Iron and Folic Acid Supplementation (IFA-WIFS) tablets.
- Prevalence of COVID Pandemic.
- Engagement of the existing staff for COVID duties in the respective districts.

The State Government endorsed (October 2022) the reply of the HFWD that with the rationalisation of salary of counsellors, the attrition rate had now come down and there were only nine vacancies in the cadre of AH Counsellors. The HFW further stated that during 2019-20, there was no administrative approval for procurement of sanitary napkins and in 2020-21, there was no procurement as allocated budget was not released due to COVID situation. During 2021-22, two tender calls failed, and the third tender call was in its final stage and supply to districts is expected from December 2022. It was also stated that directives have been issued to districts not to depute RKSK staff for non-RKSK activities and periodic reviews at the State and district levels along with field visits would be scheduled to ensure quality services and effective implementation of the programme. It further added that inter-sectoral coordination with the education department needed to be strengthened and effective Information, Education and Communication (IEC)/Behaviour Change Communication (BCC) activities needed to be planned to address adolescent health issues.

7.1.6 Janani Suraksha Yojana

Janani Suraksha Yojana (JSY) is a safe motherhood intervention implemented (2005) under the NHM to reduce maternal and neo-natal mortality by promoting institutional delivery among the pregnant women below poverty line. This scheme integrated cash assistance with delivery and post-delivery care. As per guidelines, in Karnataka, the cash assistance of ₹700 under JSY was admissible only to mothers belonging to BPL families from rural areas and ₹600 to those from urban areas. JSY guidelines required all payments including compensation amount for sterilisation wherever applicable, to be made in one instalment at the time of discharge from the hospital/health centre. The Auxiliary Nurse Midwives (ANM) and ASHA workers were to ensure disbursal of JSY cash assistance in time. Details of the eligible beneficiaries for disbursement of JSY cash benefits during 2016-23 are as shown in **Table 7.7**.

Table 7.7: Details of beneficiaries for JSY disbursement

Year	Total number of Institutional Deliveries	No. of beneficiaries under JSY disbursement (inclusive of SC and ST)	No. of SC and ST beneficiaries under JSY disbursement
2016-17	5,62,164	3,96,840	95,638
2017-18	5,69,927	2,82,731	68,138
2018-19	5,64,549	3,25,197	78,372
2019-20	5,51,781	4,98,558	1,20,152
2020-21	5,04,388	4,81,603	1,16,066
2021-22	5,33,580	3,25,313	78,400
2022-23	5,34,509	2,87,414	69,267

Source: Information furnished by HFW.

In test checked districts, disbursement of JSY benefits for the period 2016-23 is summarised in **Table 7.8**.

Table 7.8: Disbursement of JSY benefits in test checked districts

(₹ in lakh)

Type of the HIs	2016-23				
	No. of deliveries	No. of BPL patients	Amount paid to BPL patients	No. of SC/ST patients	Amount paid to SC/ST patients
DH (03)	88996	27667	166.91	9538	27.84
TH (10)	56617	35702	214.09	20097	190.39
CHC (11)	29531	13344	80.87	3433	20.24
PHC (14)	9833	8327	58.13	3799	25.26

Source: Information verified in the test checked HIs

7.1.7 National Urban Health Mission (NUHM)

The National Urban Health Mission (NUHM) as a sub-mission of National Health Mission (NHM) envisages to meet healthcare needs of the urban population with the focus on urban poor, by making available to them essential primary healthcare services. Outreach services are one of the components of NUHM to provide assistance, information, and support.

Orientation cum Training workshops are also envisaged in NHM for Health Officers, Supervisors and Peripheral workers on NUHM. The achievement of outreach services and orientation workshop conducted under NHM in test checked districts is summarised in **Table 7.9.**

Table 7.9: Achievement against targets under outreach services and orientation programmes

Sl. No.	Name of the District	Target	Achievement	Shortfall	Shortfall *(percentage)*
Outreach sessions					
1	Bengaluru Urban	50,962	43,059	7,903	15.51
2	Mysuru	0	0	0	0.00
3	Kolar	4,848	4,806	42	0.87
4	Ballari	8,988	8,158	830	9.23
5	Dharwad	7,992	8,212	0	0.00
Orientation workshop					
1	Bengaluru Urban	1,152	1091	61	5.30
2	Mysuru	184	184	0	0
3	Kolar	72	72	0	0
4	Ballari	48	47	1	2.08
5	Dharwad	6	6	0	0

Source: Information furnished by the Department

As seen from the above, all the test checked districts had fared well in achieving the set targets.

7.1.8 Revised National Tuberculosis Control Programme (RNTCP)

The Revised National TB Control Programme (RNTCP) was launched in India in 1997. The performance of RNTCP in Karnataka during the Audit period is shown in **Tables 7.10(a)** and **7.10(b).**

Table 7.10 (a) Implementation of Nikshay Poshan Yojana (NPY) in the State

Total No. of Cases registered in the Portal	Cases of Excess Payment	Cases of Short Payment	Cases of Doubtful Multiple Registration for same instance	Cases where treatment was completed but benefits not transferred.
4,81,873	Nil	Nil	2,831	2,49,226

Source: Information furnished by HFW.

Table 7.10 (b) Implementation of Nikshay Poshan Yojana (NPY) in test-checked districts

Name of the District	Total No. of Cases registered in the Portal	Cases of Excess Payment	Cases of Short Payment	Cases of Doubtful Multiple Registration for same instance	Cases where treatment completed but benefits not transferred
Ballari	28,993	Nil	Nil	274	13,356
Bengaluru Urban	95,400	Nil	Nil	949	59,094
Dharwad	14,243	Nil	Nil	43	7,542
Kolar	8,631	Nil	Nil	19	3,681
Mysuru	21,770	Nil	Nil	145	12,395

Source: Information furnished by HFW.

Action needs to be taken to transfer the benefits in cases where treatment was completed, and instances of double registrations need to be curbed.

7.1.9 Family Welfare Schemes

Family Planning one of the main components of NHM is designed and operated towards achieving the family welfare goals and objectives stated in various policy documents. Availability of family planning methods in test checked health institutions are shown in **Table 7.11.**

Table 7.11: Availability of family planning methods in test checked Health Institutions

Sl. No.	Method	MC/DHs (06)	THs (10)	CHCs (11)	PHCs` (14)
1	Spacing methods (Intrauterine Contraceptive Device (IUCD), Oral contraceptive (OC) Pills, Emergency Contraceptive pills, condoms *etc*.)	6	10	11	14
2	Limiting methods (male/female) (Vasectomy Tubectomy) (Laparoscopic and Non scalpel Vasectomy)	6	10	8	4
3	Post-partum sterilisation	6	9	9	6
4	Abortion and Contraception service	6	10	11	9
5	Post-partum ward	6	9	10	10

Source: Information furnished by HFW.

An analysis from the above revealed that family planning methods were available in tertiary and secondary healthcare facilities. However, all the methods were not provided in all the PHCs.

7.2 Ayushman Bharat Scheme

Pradhan Mantri Jan Arogya Yojana (PMJAY)

In line with the policy goals of the KIPHP 2017, all the existing schemes were merged and Arogya Karnataka, a universal healthcare scheme was launched on 2 March 2018. GoI launched (25 September 2018), the Ayushman Bharat-National Health Protection Mission, later renamed as Pradhan Mantri Jan Arogya Yojana (PMJAY) to provide health protection to poor families based on Socio-Economic Caste Census data (GoI 2011). Since both Arogya Karnataka and Ayushman Bharat have the same goal, scope, and similar modalities for providing treatments to the poor and vulnerable sections of the society, these schemes were integrated vide a Memorandum of Understanding with National Health Agency, GoI on 30 October 2018 and renamed as Ayushman Bharat-Arogya Karnataka Scheme (AB-Ark). Suvarna Arogya Suraksha Trust (SAST) was the agency responsible for implementing the scheme.

The status of claims received and settled under AB-Ark during the period 2018-19 to 2021-22 is shown in **Table 7.12**.

Table 7.12: Status of the claims for the period 2018-19 to 2021-22

Year	Number of pre-authorizations approved	Number of claims received	Number of claims settled	Amount involved *(₹ in crore)*
2018-19[68]	83,059	80,365	75,527	256.53
2019-20	5,93,172	5,74,157	5,14,704	852.81
2020-21	8,22,372	7,88,302	7,04,653	1,131.79
2021-22	13,12,991	11,12,231	6,45,754	984.52
Total	**28,11,594**	**25,55,055**	**19,40,638**	**3,225.65**

Source: Information furnished by HFW.

Only 76 *per cent* of the claims received were settled during the above period. Under the scheme, Government HIs were entitled to receive funds for providing treatment to the beneficiaries in the form of reimbursement. These funds were to be utilised for development of necessary infrastructure, procurement of medicines of immediate nature, providing incentives to staff *etc*.

Audit observed that funds provided under PMJAY could not be utilised by the test checked HIs as detailed below:

❖ Huge balances remained unutilised as at the end of March 2022 in five HIs (KR Hospital, Mysuru – ₹22.77 crore; Victoria Hospital, Bengaluru – ₹7.84 crore; DIMHANS, Dharwad – ₹1.10 crore; KC General Hospital, Bengaluru – ₹97 lakh and District Hospital, Ballari – ₹72 lakh).

❖ TH, Kalaghatagi and UPHC, Dharwad had not utilised any amount out of ₹73 lakh and ₹2.42 lakh received by them during the period 2018-19 to 2020-21.

[68] From 30 October 2018 to 31 March 2019.

Recommendations

19. ***The State Government should ensure that the funds released under the GoI schemes are utilised fully and targets set for certification are achieved to assure the public that healthcare facilities meet stipulated standards.***

20. ***The State Government may ensure the coverage of HIs under NQAS in order to maintain the prescribed standards to deliver the quality healthcare services.***

21. ***The State Government should design a strategy to enhance the awareness and outreach through various activities for making the target population aware of the benefits.***

22. ***The State Government should put in place a mechanism immediately to ensure that its stated commitment for all the issues raised in Audit are carried out scrupulously and without delay.***

Chapter - 8

Adequacy and effectiveness of the regulatory mechanisms

Chapter - 8: Adequacy and effectiveness of the regulatory mechanisms

The Karnataka State Medical Council had vacancies in key positions due to a prolonged court case. The Drug Control department suffered from a vacancy rate of 43.51 *per cent*, notably lacking Inspectors, Laboratory Supervisors, and Technicians. Additionally, 34 *per cent* of the healthcare institutions in the test checked districts lacked valid authorisation for Bio-Medical Waste Management, indicating ineffective waste segregation and disposal practices.

8.1 Introduction

Regulations in the healthcare sector are necessary to standardise and supervise healthcare, ensuring that HIs and facilities comply with public health policies, and provide safe care to all patients and visitors. Regulatory bodies monitor individual and corporate healthcare practitioners and facilities, inform the government about changes in the way the healthcare industry operates, ensure higher safety standards to improve healthcare quality and follow local, state, and federal guidelines.

8.2 Functioning of Regulatory Bodies

The functioning of the regulatory bodies in the State is discussed below:

8.2.1 State Medical Council

The Karnataka State Medical Council established (1961) under the Karnataka Medical Registration Act, 1961 consists of 17 members including five members nominated by Government. The Council meets every Saturday in addition to conducting the quasi-judicial proceeding meetings. Audit observed that the posts of five nominated members and two other elected members had been vacant since 2020, due to court case. Consequently, there was no Government representation in the meetings of the Council.

Further, as per Section 12 of the Act, the Registrar shall keep a register of medical practitioners and as per Section 26 of the Act, the Registrar of the Council shall every year on or before 30 June publish in the Official Gazette a correct list of names and qualifications of all practitioners entered in the register on the first day of January of that year. Audit observed that no such list of medical practitioners was published.

8.2.2 State Para Medical Board

The Para Medical Board was constituted in 1997 with functions to grant affiliation, regulate admissions and control the functioning of institutions conducting Para Medical courses with respect to imparting quality education programmes and conduct examinations.

The information of the registered/un-registered institutions was not furnished despite taking up the matter with the higher authorities at the Government level. Hence, Audit could not comment on the functioning of the Board.

8.3 Implementation of the Clinical Establishments Act and Rules

Karnataka Private Medical Establishment Act, 2007 was enacted to provide for the promotion and monitoring of private medical establishments in the State and matters connected therewith or incidental thereto. Section 3 of the Act stipulates that no Private Medical Establishment (PME) shall be established, run or maintained in the State except under and in accordance with the terms and conditions of registration granted under this Act.

The Registration and Grievance Redressal Authority constituted under the Act in each district headed by the Deputy Commissioner scrutinises the applications. 29,409 PMEs (as of October 2021) were issued with registration certificates and 25 applications were rejected. There were 874 applications pending of which 122 were more than three months old. Further, while 23,558 medical practitioners were registered under KPME, there were 1,434 unregistered medical practitioners whose shops/clinics were closed/ordered for closure. There was, however, no database on the total number of PMEs functioning in the State with the department. This evidence indicates an absence of a mechanism to ensure mandatory registration of the PMEs.

8.3.1 Registration/Accreditation of Medical Diagnostic Laboratories (or Pathological Laboratories)/Hospitals

National Accreditation Board for Hospitals and Healthcare Providers (NABH) is a constituent board of Quality Council of India (QCI), set up to establish and operate accreditation programme for healthcare organisations. The National Accreditation Board for Testing and Calibration Laboratories (NABL) is another constituent board of QCI which grants accreditation to Testing Laboratories, Calibration Laboratories, Medical Laboratories, *etc*.

Audit observed that neither of the test checked HIs was accredited under NABH nor the laboratories in test checked HIs were NABL accredited.

The State Government stated (October 2022) that NABH/NABL accreditation was voluntary initiative which focuses on infrastructure, documentation and human resources and is not mandated. NQAS on the other hand certifies the infrastructure, human resources and quality in the service provision of all sections of the hospitals and is emphasised under NHM.

The Audit observed that most of the public HIs were yet to be covered under the Quality Assurance Programme as commented in **Para 7.1.2.**

8.4 Functioning of State Nursing Council

Karnataka State Nursing Council was established in 1968 under the Karnataka Nurses, Midwives and Health Visitors Act,1961. As per the Act, the Council should have 21 members from various fields including three nominated by Government and the Council was to meet once a year with a quorum of six members.

Audit observed that the Council constituted during 2015-16 was functioning with three nominated members only. There were no elected members of the Council. Twenty-four meetings were held during the period 2017-22 without elected members and without required quorum which was in contravention to the by-laws.

Though one of the functions of the Council was to register nurses and midwives and monitor the registrations, it did not maintain records of total number of nurses and midwives in the State. Further, it was observed that 24 out of 784 nursing schools and 13 out of 538 nursing colleges had not renewed their registrations.

8.5 Drug Controller of the State

The Drug Control Department (DCD) existing since 1956 under the HFWD regulates the manufacture of drugs and cosmetics and sale of drugs in the State. The mission of the DCD is to protect public health and to strive for the pharmaceutical excellence by ensuring the availability of safe, effective, and quality drugs. DCD is responsible for implementation and enforcement of Drugs and Cosmetics Act, 1940 and Rules thereunder. There are three Government Drug testing laboratories (DTL) in the State, one each at Ballari, Bengaluru and Hubballi under the control of DCD. Only DTL, Bengaluru was NABL accredited. There were 46,637 units (manufacturing, blood banks, blood storage units, stem cells banks, laboratories, *etc.*) in the State as at the end of 2021-22.

There was vacancy of 43.51 *per cent* in the department as only 13 drug inspectors were working against sanctioned posts of 112, 10 out of 18 laboratory supervisor posts and 21 out of 28 lab technician posts were vacant. As a result, there was delay in intimating test reports to the HIs/district warehouses/others. During the period from 2016-17 to 2020-21, reports were issued on time for 30,563 (89 *per cent*) out of 34,209 samples received. As there is no system of maintaining buffer stock in the public HIs, the delay in communication resulted in issue of not of standard quality drugs/medicines to poor patients.

8.6 State Pharmacy Council

The Karnataka State Pharmacy Council constituted (1963) under the Pharmacy Act, 1948 regulates the profession and practice of Pharmacy in the State. Section 26A of the Act stipulates that

(1) A State Council may, with the previous sanction of the State Government, appoint Inspectors having the prescribed qualifications.

(2) An Inspector may (a) inspect any premises where drugs are compounded or dispensed and submit a written report to the Registrar; (b) enquire whether a person who is engaged in compounding or dispensing of drugs is a registered pharmacist; (c) investigate any complaint made in writing in respect of any contravention of this Act and report to the Registrar.

Audit observed that Pharmacy Inspectors were yet to be appointed. As a result, the inspection of premises where drugs were compounded or dispensed was not done and functioning of the pharmacy institutions could not be monitored.

8.7 Bio-Medical Waste Management

8.7.1 Absence of valid authorisation

Bio-Medical Waste (BMW) Management Rules, 2016 stipulates the procedure for generation, collection, handling, transportation, disposal, and monitoring of the BMW with clear roles for waste generators and Common Bio Medical Waste Treatment Facility (CBMWTF). Further, every occupier or operator handling

BMW, irrespective of the quantity, shall make an application to the prescribed authority *i.e.,* State Pollution Control Board (SPCB) for grant of authorisation.

The status of unauthorised HIs during the period 2016-22 is summarised in **Table 8.1.**

Table 8.1: Status of unauthorised health institutions for the period from 2016 to 2022

Year	Total Number of HIs in operation	Number of unauthorised HIs	Number of HIs not submitted annual reports	Percentage of non-submission of annual reports
2016	29,874	2,595	2,595	8.69
2017	32,364	8,086	8,086	24.98
2018	35,869	9,055	9,055	25.24
2019	36,021	6,895	6,895	19.14
2020	41,709	6,021	6,021	14.44
2021	44,685	5,148	5,148	11.52
2022	48,431	3,733	3,733	7.71

Source: Information furnished by HFW

The percentage of non-submission of annual reports of unauthorised healthcare facilities ranged from 7.71 to 25.24. The number of unauthorised HIs has been on a decreasing trend from 2018. Necessary action is needed to regulate these HIs in compliance with the stipulated rules.

Audit observed that the majority of the HIs in the districts test-checked had not obtained valid authorisation as detailed in **Table 8.2**.

Table 8.2: Status of authorisation in health institutions in test-checked districts

District	Total number of Government HIs	Total Number of Private HIs	Number of HIs with valid authorisation	
			Government HIs	Private HIs
Bengaluru Urban	235	7,513	119	4,350
Ballari	351	1,055	234	898
Dharwad	205	2,061	150	1,405
Kolar	191	671	97	490
Mysuru	408	1,202	283	1,166
Total	**1,390**	**12,502**	**883 (64 *per cent*)**	**8,309 (66 *per cent*)**

Source: Information furnished by SPCB

As could be seen from the table above, 34 *per cent* of the healthcare institutions in the test checked districts lacked valid authorisation for Bio-Medical Waste Management. Further, 18 test checked HIs did not have valid authorisation from SPCB.

The State Government stated that all Government HIs have valid authorisation from SPCB and the District Nodal Officer, BMWM has been intimated to take strict action against those private HIs which do not have valid authorisation.

8.8 License for imaging equipment and their operation

As per Rule 3 of Atomic Energy (Radiation Protection) Rules, 2004 issued by Department of Atomic Energy, (1) no person shall without a license (a) establish a radiation installation for siting, design, construction, commissioning, and operation; and (b) decommission a radiation installation and (2) no person shall handle any radioactive material or operate any radiation generating equipment except in accordance with the terms and conditions of a license.

The State Government (Directorate of Radio Safety-DRS) entered (December 2018) into a Memorandum of Understanding (MoU) with Atomic Energy Regulatory Board (AERB) to conduct regulatory inspection of X-ray installations as per AERB Rules. As per the MoU, AERB was to train the staff of DRS before they could start conducting inspections of radiation equipment installed in the public and private institutions. This training could, however, take place only after the staff, especially the Director with the requisite qualification set by the AERB, were posted.

Audit observed that only eight out of the total 28 sanctioned posts were filled by the DRS. The post of Director, Chief Health Equipment Officer (4) and Health Equipment Officer/Radiation Safety Officer (10) remained vacant. In the absence of the Director, the staff of DRS could not be trained, which in turn resulted in the absence of monitoring of radiation equipment.

Further, as per the AERB Gap Analysis Report, out of 683 X ray machines in 358 HIs, only 70 had obtained AERB license. The absence of periodic monitoring besides contravening the AERB Rules also raises concerns about the functioning of this equipment as they can pose high risk to the health of the staff, patients, and environment.

The State Government replied (October 2022) that the post of Director was filled up during July 2022 and after obtaining training from AERB, DRS will be authorised to function as per MoU. It further stated that the posts would be filled up by outsourcing during 2022-23 and gap analysis, gap filling and issuance of license for operation would be taken up in two phases on turnkey basis.

8.9 Internal Monitoring System

IPHS Guidelines stipulate that quality assurance, quality control of processes and quality of service delivery should be ensured at all levels. This required existence of internal monitoring system such as Internal Audit, Medical Audit, Death Review, Disaster Preparedness Audit, Patient Satisfaction Surveys *etc.*, in the HIs. Status of the compliance in the test checked HIs is given in **Table 8.3.**

Table 8.3: Status of compliance to Internal monitoring system in test checked health institutions

Particulars	SS/MC (05)	DH/TH (13)	CHC/TH (25)
Internal Audit	04	02	06
Medical Audit	01	02	03
Death Audit/ Review	03	04	04
Disaster Preparedness	Nil	02	Nil
Technical Audit	Nil	Nil	Nil
Financial Audit	Nil	Nil	Nil

Particulars	SS/MC (05)	DH/TH (13)	CHC/TH (25)
Social Audit	Nil	Nil	Nil
Patient Satisfaction Survey	02	06	07

Source: Information verified in the test checked HIs for the Audit period 2016-17 to 2021-22

As could be seen, there was poor compliance with the IPHS requirement in the test checked HIs as regards quality assurance.

The State Government stated (October 2022) that HIs carried out both medical and death audits and the other audits were under process and would be streamlined. As regards Patient Satisfactory Survey (PSS), it stated that PSS was being carried out both in online and offline modes. Currently, 526 HIs were integrated with *Mera Aspataal* portal to get automatic feedback on the services provided.

8.10 Compliance to Statutory requirements

IPHS Guidelines stipulate that every HI shall fulfill all the statutory requirements and comply with all the regulations issued by Local Bodies, State and Union of India. The Hospital shall have copy of the licenses obtained under these Regulations/Acts.

Audit observed that the test checked HIs did not comply with the statutory requirements as shown in **Table 8.4.**

Table 8.4: Status of compliance to statutory requirements in test checked health institutions

Particulars	SS/MC (05)	DH/TH (13)	CHC/PHC (25)
Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008	04	07	10
License for Blood Bank or Authorisation for Blood Storage facility.	04	07	Not Applicable
Type and Site approval from AERB for X-ray, CT Scan Unit	05	08	Not Applicable
Registration certificate for Ambulances	05	12	08
Insecticides Act, 1968	03	05	08
PC and PNDT[69] Act, 1994	05	06	Not Applicable
Narcotics and psychotropic substances Act, 1985	04	04	02

Source: Information verified in the test checked HIs

The State Government stated (October 2022) that out of 43 HIs, 19 had valid authorisation from the District Pollution Control Board. The reply was, however, silent on the compliance with the statutory requirements pointed out in Audit.

[69] Pre-Conception and Pre-Natal Diagnostic Techniques

Recommendations

23. The State Government should ensure that all utilities generating bio-medical waste comply with the provisions with regard to authorisation, bar-coding, annual returns to regulate the generation and disposal of bio-medical waste.

24. The State Government should ensure that sufficient human resources are provided to Drugs Control Department and Directorate of Radio Safety to ensure the safety of public health through constant and stringent monitoring.

25. The State Government may ensure that various regulatory bodies may adopt an adequate and effective monitoring mechanism to have conformity with the prescribed standards.

Chapter - 9
Sustainable Development Goal 3

Chapter – 9: Sustainable Development Goal 3

The Department established Monitoring and Coordination Committees, including a State-level Steering Committee, to formulate action plans for achieving SDGs. However, there was no dedicated fund allocation to address gaps in achieving SDG 3 targets. Despite performing relatively well compared to other States under SDG 3, Karnataka failed to meet its own targets.

The 2030 agenda of the United Nations (UN) comprises 17 Sustainable Development Goals (SDGs) and 169 associated targets. The SDGs are a comprehensive list of global goals integrating social, economic and environmental dimensions of development.

India is committed to implementing SDGs. At the national level, NITI Aayog provides leadership, and the Ministry of Statistics and Programme Implementation (MoSPI) developed a National Indicator Framework (NIF) for measuring goal attainment.

SDG 3 on "Good Health and Well-being" aims to ensure healthy lives and promote well-being for all at all ages. It has 13 targets (9 outcome targets and 4 means to achieving targets) and 28 indicators to measure the progress of these targets. However, NITI Aayog designed 42 indicators to measure the performance and monitor the progress of these 13 targets.

State adopted all 13 targets and related indicators and prepared a road map (Sustainable Development Goals-Vision Document 2030) to achieve the targets in a given period of time to ensure sustainable development.

9.1 Planning and mapping budget for SDG-3

Planning, Programme Monitoring and Statistics Department (PPMS) is the nodal agency responsible for formulating strategies for attainment of SDGs in Karnataka by 2030. The State has brought out SDG 3 Karnataka Vision 2030 document which provides information on the baseline indicators, target and action plan to achieve the same. The department has set up Monitoring and Coordination Committee and the State level Steering Committee for formulation of effective action plans for achieving the SDGs. To periodically monitor the progress of SDGs, a separate technical cell and goal specific committees have been set up.

9.1.1 Annual Health Survey not carried out

HFWD, which is the nodal agency for SDG 3, conducts Community Need Assessment Approach survey for assessing the needs of the Community and for evidence-based planning and reforms every year. This survey forms the basis for calculation and monitoring of estimates for achieving the national programmes. The survey was, however, not carried out during the years 2019-20 and 2021-22.

The State Government stated (October 2022) that the survey could not be carried out during 2019-20 and 2020-21 due to COVID pandemic. However, the survey for 2022-23 was under progress.

9.1.2 Budgeting for Sustainable Development Goals focusing SDG-3

There was no separate fund allocation for addressing the gaps/shortfalls in achieving the targets under SDG 3. The targets were addressed through various activities taken up under different schemes that are mapped to SDG 3. The PPMS stated (July 2022) that the entire budget has been mapped to all SDGs and a special announcement was made in the 2022-23 budget for education, health, and nutrition.

9.2 Performance of indicators for SDG-3

As per SDG India Index 2020-21, Karnataka stands third along with Andhra Pradesh, Goa and Uttarakhand with 72 points behind Kerala and Tamil Nadu among the Southern States. However, under SDG 3, Karnataka with an index score of 78 is placed fifth. Among the Southern States, only Tamil Nadu with a score of 81 is above Karnataka. Though Karnataka has performed consistently well in comparison with other States, Audit observed that it fell short of achieving its own targets as shown in **Table 9.1**.

Table 9.1: Status of health indicators in the State against its own targets

Health Indicators	NFHS-4	NFHS-5	State Target		National
	(2015-16)	(2019-21)	2022	2030	
Maternal Mortality Rate (MMR) (per 1,00,000 live births)	97	92	78	50	97
Under-five mortality rate Per 1,000 live births	31.5	29.5	23	20	36
Neonatal Mortality Rate Per 1,000 live births	18.5	15.8	14	10	24.9
Infant Mortality Rate (IMR) (per 1,000 live births)	26.9	25.4	16	12	35.2
Proportion of births attended by skilled health personnel (Period 5 Years)	93.7	93.8	95	100	89.4
Percentage of women aged 15-49 years with a live birth, for last birth, who received antenatal care, 4 times or more (Period 5 years/ 1 year)	70.9	70.1	80	100	58.1
Institutional births (*per cent)*	94	97	99	100	88.6
Number of new HIV infections per 1,000 uninfected population	0.08 (SIMS-2017)	0.02	0	0	0.05
Tuberculosis (TB) incidence per 1,00,000 population	118	135	104	44	177
Total physicians, nurses and midwives per 10,000 population	NA	70	Phy-130 Nurs-200 MW-170	Phy-260 Nurs-400 MW-350	37

Source: Data furnished by SDG Nodal office, NHFS 4 (October 2017)
NHFS 5 (September 2021) and Karnataka SDG Vision Document (February 2020)

In fact, there has been an increase in the number of incidences of TB in comparison with 2015-16 which is a cause for concern. State has fared well in other indicators.

The State Government accepted (October 2022) that there was a need for tobacco control. As regards TB, it stated that there was no actual increase in TB burden in the State when compared to 2015 even though NFHS 5 shows a marginal increase. The Sub National Certification of districts conducted in the year 2022 (March), has certified that there is reduction of incidence of TB by 40 *per cent* in five

districts and reduction in TB incidence by 20 *per cent* in nine districts as compared to 2015.

The reply of the State Government does not correlate with the figures as per NFHS 4 and NFHS 5.

9.2.1 Status of indicators in test checked districts

The Status of MMR and IMR in test checked districts in comparison with State Average is shown in **Table 9.2.**

Table 9.2: Status of indicators in test checked districts

Districts	(MMR)	(IMR)
National Average	97	35.2
State Average	92	25.4
Bengaluru Urban	31	06
Ballari	101	17
Dharwad	217	11
Kolar	71	09
Mysuru	45	24

Source: Information furnished by HFWD (NFHS-5 for the period 2019-21)

The maternal mortality rate was very high in Dharwad district. This can be attributed to the fact that patients come from neighbouring districts to KIMS, Hubballi, a tertiary care hospital in the district. The high MMR in Ballari district is also a cause for concern.

9.3 Analysis of Performance of Indicators meant for evaluation of progress of SDG-3

The World Health Organisation sets targets of Sustainable Development Goal 3 to ensure healthy lives and promote well-being for all at all ages. The description of indicators under SDG-3 are detailed in **Table 9.3**.

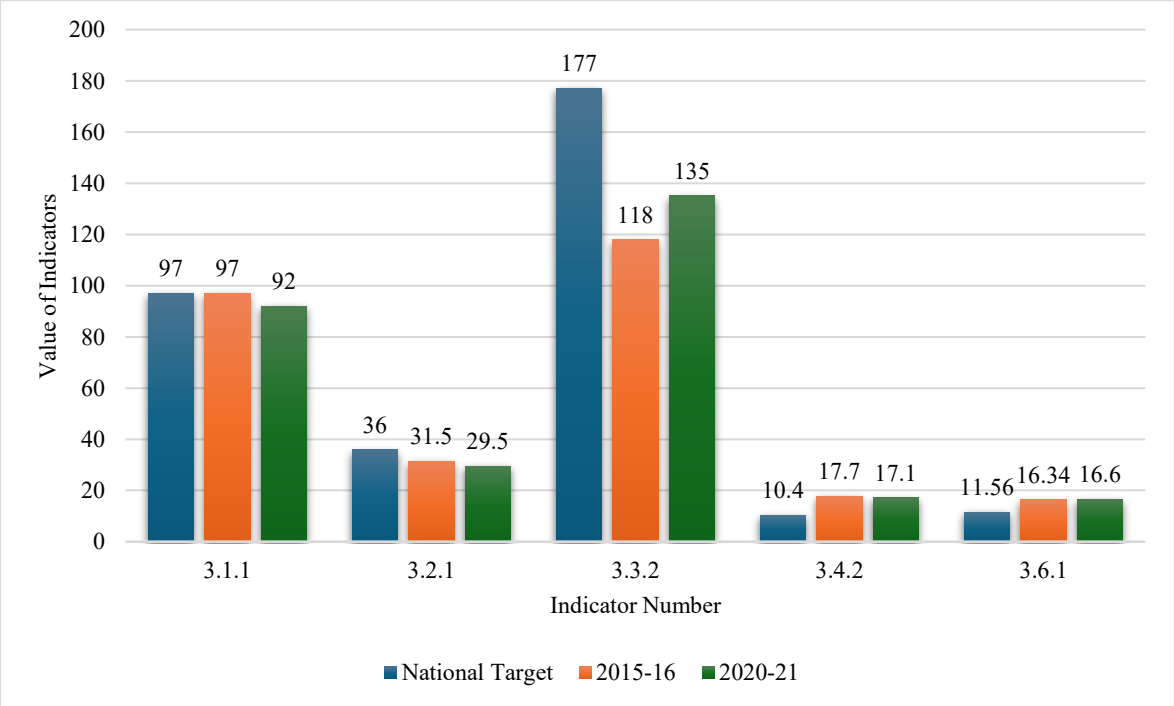
Table 9.3: Description of indicators under SDG-3

Indicator	Name of Indicators	Brief description
3.1.1	Maternal Mortality Rate	This indicator is defined as the proportion of maternal deaths per 1,00,000 live births per annum.
3.2.1	Under five mortality rates	The indicator is defined as a child born in a specific year or time period will die before reaching the age of five per 1,000 live births annually.
3.2.3	Percentage of fully immunized infants in the age group 12-23 months	The indicator is defined as the percentage of children aged 12-23 months who received all the basic vaccinations for BCG, Measles and three doses of Pentavalent vaccine.
3.3.2	Total cases of notification of Tuberculosis per one lakh population	The indicator is defined as the estimated number of new and relapse TB cases (all forms of TB, including cases of persons living with HIV) arising in a given year, expressed as a rate per 1,00,000 population.

Indicator	Name of Indicators	Brief description
3.4.2	Suicide Rate	Suicide Rate is defined as the total number of suicides reported per 1,00,000 population during reference year.
3.6.1	Death Rate due to Road Traffic Accidents	The indicator is defined as the number of persons died due to road accidents calculated as rate per 1,00,000 population during reference year.
3.7.3	Percentage of institutional deliveries out of total deliveries reported	The indicator is defined as the percentage of deliveries in a health facility during the period for five years or one year.
3.7.4	Modern family planning methods used by married women	The indicator is defined as the percentage of married women aged 15-49 years who use any modern method of family planning.
3.c.1	Total physicians, nurses and midwives per 10,000 population	The indicator is defined as the number of physicians, nurses and midwives per 10,000 population.
3.8.2	Monthly Per capita Out of Pocket Expenditure on Health as a share of monthly per capita consumption expenditure	Analysis of this indicator has not been done here due to data available only for one-year (2020-21) i.e.no progressive data (year on year).

Source: Information furnished by HFW

Chart 9.1: Maternal Mortality Rate (3.1.1), Under 5 mortality rate (3.2.1), TB cases per lakh (3.3.2), Suicide Rate (3.4.2) and Death Rate due to Accidents (3.6.1) during 2015-21

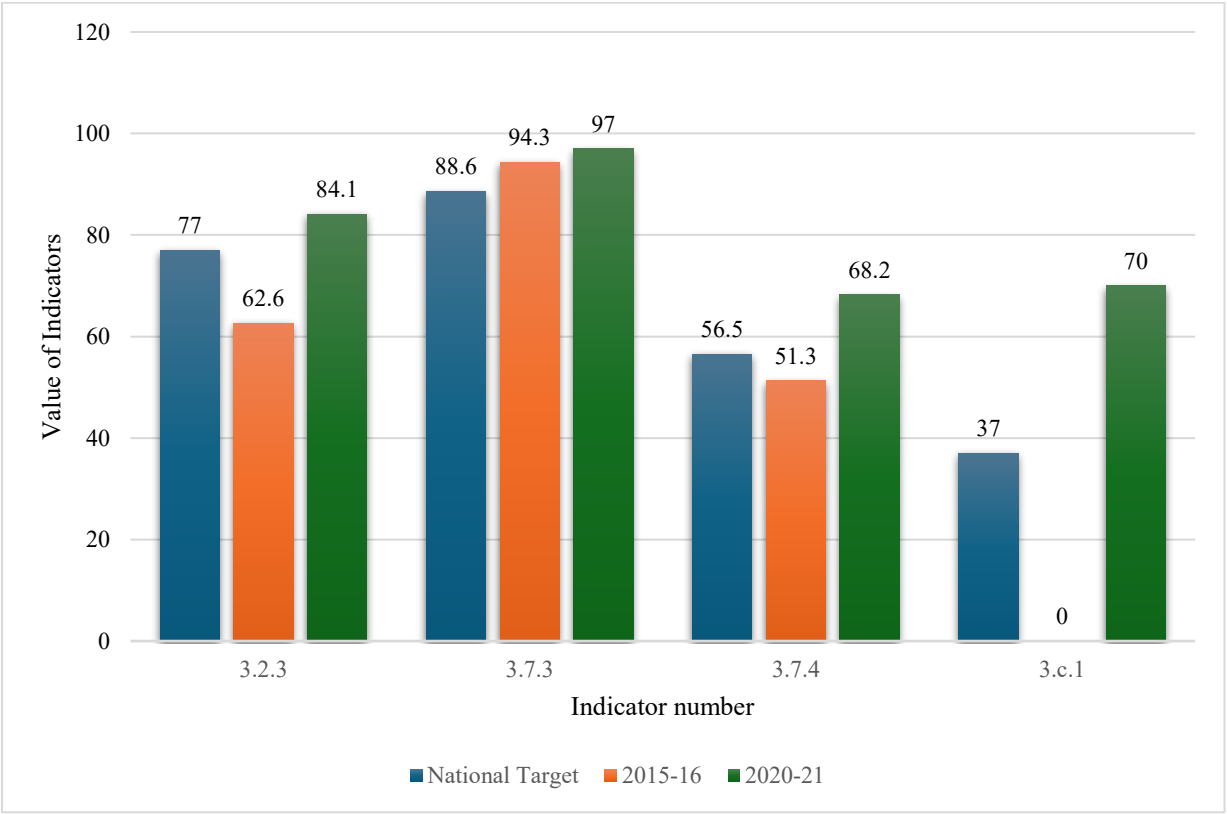


Source: SDG Index Report 2020-21

Karnataka has made progress in several areas related to healthcare, including improvements in maternal and child health. However, as per the SDG India Index, the suicide rate in Karnataka per lakh population was 17.7 during the period 2015-16. Though the rate has marginally reduced to 17.1 per lakh population during 2020-21, it is still higher than the national average of 10.4.

SDG Goal - 3 aims to reduce death rate due to road traffic accidents to 5.81 per lakh population by the year 2030. As per SDG India Index 2020-21 death rate in Karnataka was 16.60 per lakh population while the national average was 11.56 per lakh. GoK set a target for reducing the number of suicide cases to less than 10 per lakh population by the year 2022 and five per lakh population by year 2030.

Chart 9.2: Percentage immunized children (3.2.3), Percentage of institutional deliveries (3.7.3), usage of modern family planning methods (3.7.4), availability of total physicians, nurses and midwives (3.c.1) during 2015-21 under SDG-3



Source: NHFS 4 (October 2017), NHFS 5 (September 2021) and Karnataka SDG Vision Document (February 2020).

As could be seen from the above, the health indicators show a positive trend. The usage of modern family planning methods increased from 51.3 during 2015-16 to 68.2 *per cent* during 2020-21, which was higher than the national target. GoK had set a target for usage of family planning methods to 60 *per cent* by the year 2022 and 70 *per cent* by the 2030.

Availability of physicians in the State per 10,000 population was 70 which was higher than the national target of 37. The target set by GoK for total physicians in the State by the year 2022 and 2030 was 170 and 350 respectively. Audit observed shortage of about 29 *per cent* of doctors in the HFWD and 38 *per cent* in DME.

Recommendations

26. The State Government should ensure that the steps be taken to formulate a comprehensive plan to achieve the targets under SDG-3.

Bengaluru
The 28 Oct 2024

(Shanthi Priya S)
Principal Accountant General (Audit I)
Karnataka

Countersigned

New Delhi
The 29 Oct 2024

(Girish Chandra Murmu)
Comptroller and Auditor General of India

Appendices

Appendix-1.1
(Reference: Paragraph no. 1.8.1/Page 8)
List of test checked health institutions

District	Tertiary Care Hospital		Secondary Care Hospital					Primary Care Hospital
	Super-speciality Hospital (02)	Medical College (03)	District Level Hospitals (03)	AYUSH (02)	Taluk Level Hospital (10)	CHCs (06)	Urban Health Centres (05)	PHCs (14)
Bengaluru Urban	Indira Gandhi Institute of Child Health	Victoria Hospital	K C General Hospital	Govt. Unani Hospital	Yelahanka and K R Puram	Kengeri and Avalahalli	BBMP Shanthinagar Maternity Home, BBMP Halasuru Referral Hospital, BBMP DJ. Halli Maternity Home, BBMP Sirsi Road Maternity Home,	Kannalli and Kannur
Ballari	-	-	DH Ballari	-	Kudligi and Sandur	Kotturu and Torangallu	-	Allur and Chornur
Dharwad	DIMHANS	KIMS	-	-	Kalaghatagi and Navalgund	-	HDMC Maternity Hospital, Dharwad	GH Koppa, Mukkal, Annigeri and Morab
Kolar	-	-	DH Kolar	-	Bangarpet and Srinivasapura	Gowni palli		Addagal, Thoppanhalli and Budikote
Mysuru	-	MMCRI	-	Ayurvedic Medical College & Hospital	H D Kote and Periyapatna	Sargur		Badagalapura, Bettadapura and Kittur

CHCs: In the test checked taluks (Periyapatna, Kalaghatagi and Navalgund), there were no CHCs, so PHCs were selected in place of CHCs. And the UHCs under ULBs are considered as CHCs. Total number of CHCs-11

Appendix-2.1
(Reference: Paragraph no. 2.1/Page 13)
Statement showing assessment of human resources w.r.t. IPHS norms

Name of post	Essential number of staff as per IPHS-2012				Sanctioned strength of the facility as per State Government Norms			
	Up to 100 Bedded	101 to 200 Bedded	201 to 300 Bedded	301 to 400 Bedded	100 Bedded	150 Bedded	250 Bedded	300 Bedded
Doctors/Specialists	29+3	34+3	50	58	16	19	31	35
Staff nurse	45	90	135	180	21	22	66	66
Pharmacist	4+1	6+1	8+1	10+1	3	2	6	6
Lab Technician	6	9	12	15	2	3	6	6
Radiology Technician/Radiographer	2	3	5	7	2	3	5	5
Blood Bank In- charge (Doctor– Pathologist)	-	-	1	1	-	-	-	
ECG Tech/Eco	1	2	3	4	-	-	1	1
Audio metrician	-	-	1	1	-	-		
Optha. Astt.	1	1	2	2	1	1	1	1
EEG Tech	-	-	1	1	-	-		
Dietician	1	1	1	1	-	-		
Physiotherapist	1	1	2	2	-	-	2	2
O.T. technician	4	6	8	12	-	-		
CSSD Astt.	1	1	2	2	-	-		
Social Worker	2	3	4	5	-	-	3	3
Counsellor	1	1	2	2	-	-	-	-
Dermatology Technician	-	-	1	1	-	-	-	-
Cyto-Technician	-	-	1	1	-	-	-	-
Dental Technician	1	1	2	2	-	-	1	1
Rehabilitation Therapist	1	1	2	2	-	-	-	-

Appendix-2.2
(Reference: Paragraph no. 2.2.2 /Page 15)
Status of the specific Manpower Positions in the HFWD

Post Name	Sanctioned Posts	Working Strength	Vacant Posts	Vacancy *(Percentage)*
Medical Officer	4,323	2,831	1,492	34.51
Staff Nurse	9,492	6,188	3,304	34.81
Sr./Jr. Health Assistant (Male)	6,039	4,101	1,938	32.09
Medical Lab Technologists	3,718	1,970	1,748	47.01
Pharmacists	2,896	1,512	1,384	47.79
FDA/SDA/Typist	5,478	3,240	2,238	40.85
Dental Surgeon/Dentist	423	407	16	3.78
Group D/Hospital Attendant Grd. I/II	16,778	5,114	11,664	69.52
Sr./Jr. Health Assistant (Female)	11,284	6,685	4,599	40.76
Radiographer/ Ultrasound Technician	623	463	160	25.68
Senior Medical Officer/Specialist/Super Specialist	2,833	2,478	355	12.53
Sr. Pharmacist	536	225	311	58.02
Driver	1,665	955	710	42.64
Statistical Assistant/Asst. Statistical Officer	109	47	62	56.88
Junior Auditor/Auditor	5	0	5	100.00
Account Assistant	11	4	7	63.64
Account Superintendent	9	5	4	44.44
Office Superintendent	605	428	177	29.26
Assistant Administrative Officer	222	179	43	19.37
Health Programme Officer	497	289	208	41.85
Health Supervisor	110	11	99	90.00
Senior Food Safety Officer	34	4	30	88.24
Senior Health Supervisor	76	9	67	88.16
Others	2,155	795	1,360	63.10
Total	**69,921**	**37,940**	**31,981**	**45.74**

Appendix-2.3
(Reference: Paragraph no. 2.3/Page 22)
District wise vacancy position of manpower (in *per cent*) in Karnataka

(in per cent)

District	Doctor	Nurse	Paramedics	Others
Bidar	23.66	36.59	12.21	46.30
Kalaburagi	27.05	34.67	9.33	26.87
Vijayapura	33.33	17.24	17.86	34.75
Yadagiri	40.58	25.95	15.92	29.63
Raichur	42.11	26.11	17.32	31.08
Bagalkote	28.36	18.58	16.40	33.76
Belagavi	37.97	34.93	49.51	54.41
Koppal	37.41	34.05	18.12	47.38

District	Doctor	Nurse	Paramedics	Others
Gadag	47.83	32.29	24.23	57.86
Dharwad	12.82	26.09	29.86	28.14
Ballari	31.19	40.76	22.39	39.38
Haveri	35.79	36	39.72	57.65
Uttara Kannada	47.06	29.43	53.43	76.27
Shivamogga	38.43	35.19	44.22	73.46
Davanagere	14.60	36.65	26.77	35.42
Chitradurga	28.41	29.98	27.29	50.50
Chikkamagaluru	44.87	39.64	56.33	60.21
Udupi	14.86	28.82	56.76	64.79
Tumakuru	30.70	50	48.34	68.66
Chikkaballapura	18.54	58.90	61.13	62.88
Dakshin Kannada	27.36	25.13	54.35	49.49
Hassan	31.81	35.40	55.58	71.52
Bengaluru Rural	11.36	36.26	40.98	60.42
Bengaluru Urban	3.55	27.61	35.95	30.68
Ramanagara	16.57	54.91	42.83	51.82
Kolar	23.71	45.10	60.63	48.94
Mandya	24.83	51.34	53.30	68.25
Mysuru	12.45	33.33	54.57	59.79
Kodagu	50	38.16	71.33	82.25
Chamarajanagara	26.95	34.48	72.80	80.19

Appendix-2.4
(Reference: Paragraph no. 2.3.3 /Page 27)
Status of the working of the specialists' doctors in the districts

Division	District	CHCs			THs			DHs		
		SS	PIP	Vacancy	SS	PIP	Vacancy	SS	PIP	Vacancy
Bangalore Division	Bangalore Urban	15	17	-2	27	32	-5	109	137	-28
	Bangalore Rural*	6	8	-2	42	39	3	0	0	0
	Chikkaballapura	6	6	0	55	54	1	27	31	-4
	Chitradurga	35	21	14	53	41	12	35	28	7
	Davanagere	12	11	1	41	31	10	38	35	3
	Kolar	12	5	7	39	36	3	30	32	-2
	Ramanagara	12	16	-4	30	33	-3	22	21	1
	Shivamogga*	21	15	6	87	57	30	0	0	0
	Tumakuru*	12	11	1	104	94	10	0	0	0
Mysuru Division	Chikkamagaluru	18	9	9	56	41	15	28	24	4
	Chamarajanagara*	15	15	0	35	24	11	0	0	0
	Dakshin Kannada	54	32	22	11	10	1	29	31	-2
	Hassan*	45	32	13	83	65	18	0	0	0
	Shivamogga*	36	16	20	22	14	8	0	0	0
	Mandya*	30	34	-4	59	59	0	0	0	0
	Mysuru*	27	29	-2	62	71	-9	0	0	0
	Udupi	18	19	-1	20	21	-1	16	13	3
Belagavi Division	Bagalakote	18	12	6	49	39	10	28	28	0
	Belagavi*	51	39	12	98	70	28	0	0	0
	Dharwad	0	0	0	29	19	10	21	26	-5
	Gadag*	6	3	3	38	26	12	0	0	0
	Haveri	15	9	6	59	49	10	48	40	8
	Uttara Kannada*	6	2	4	93	60	33	0	0	0
	Vijayapura	27	19	8	44	21	23	30	31	-1
Kalaburagi Division	Ballari	42	21	21	59	47	12	26	25	1
	Bidar*	24	21	3	50	41	9	0	0	0
	Kalaburagi*	39	27	12	57	46	11	0	0	0
	Koppal*	27	13	14	29	19	10	0	0	0
	Raichur*	18	9	9	39	28	11	0	0	0
	Vijayanagara*	0	0	0	0	0	0	0	0	0
	Yadgir*	18	10	8	21	11	10	16	16	0
Total		**665**	**481**	**184**	**1,491**	**1,198**	**293**	**503**	**518**	**-15**

*No DHs in these districts.

Appendix-2.5
(Reference: Paragraph no. 2.4/Page 31)
Non-functioning of the services due to non-availability of the staff in test checked HIs

Sl. No.	Name of the HIs	Non-availability of the staff	Audit Remarks
1	UHC Shanthinagar	Dentist	Services were not available
2	TH Kalaghatagi	Orthopaedist (January2018 to January/2022) and Anaesthetist (2016-17 to June 2021)	Services were not functional on regular basis.
3		Trained Medical Officer/blood storage staff	License of the blood storage unit was not renewed since January2020.
4	PHC Mukkal	Staff nurse	Night shift was not operational from July2019 to May 2021
5	CHC Sargur	OBG, Paediatric doctor and anaesthetist	No C -section[70] operation was conducted.
6	CHC Sargur and PHCs Badagalapura, Kittur	Pharmacist	Staff nurses were dispensing the drugs to the patients.
7	PHC Annigeri	Pharmacist	Group D was performing the duties of the pharmacist.
8	Nursing School and College attached to MMCRI	No sanctioned post of nurses	17 staff nurses were deputed from MMCRI attached hospital where already more than 80 *per cent* shortage of staff nurses.
9	Indira Gandhi Institute of Child Health	Shortage of manpower.	Surgeries were not performed on current basis, *i.e*., as, and when it was required, but conducted by providing time slot on a later date by recreating waiting list of patients (currently up to 3 months waiting period).
10	PHC Kittur	Lab Technician	Non -conduct of pathological tests.
11	PHC Badagalapura	Pharmacist	Pharmacist from other health centre visited the PHC once in a week.

[70] Caesarean Section

Appendix 3.1
(Reference: Paragraph No. 3.1 / Page 35)
Availability of OPD Services in test-checked Health Institutions

Speciality Services (OPD)	Ballari			Bangalore Urban				Dharwad			Kolar			Mysuru		
	DH Ballari	TH Kudligi	TH Sandur	Victoria Hospital (Medical College attached hospital)	K C General Hospital (DH)	TH K R Puram	TH Yelahanka	KIMS Hubballi (MC)	TH Kalaghatagi	TH Navalgund	DH Kolar	TH Bangarpet	TH Srinivasapura	K R Hospital	TH H D Kote	TH Periyapatna
ENT	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
General Medicine	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Pediatrics	A	A	NA	A *	A	A	A	A	A	NA	A	A	A	A	A	A
General Surgery	A	A	A	A	A	A	A	A	A	NA	A	NA	A	A	A	A
Ophthalmology	A	NA	NA	A *	A	A	A	A	A	A	A	A	A	A	A	A
Dental	A	A	A	A *	A	A	A	A	A	A	A	A	A	A	A	A
Obstetric	A	A	A	A *	A	NA	A	A	NA	NA	A	A	A	A	A	A
Gynecology	A	A	A	A *	A	A	A	A	NA	A	A	A	A	A*	A	A
Psychiatry[71]	A	NA	NA	A	A	NA	A	A	NA	A	A	A	NA	A*	NA	NA
Orthopedics	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Dermatology &[72] **Venereology**	A	NA	NA	A	A	A	A	A	NA	NA	A	A	A	A	A	A

A-Available; **NA**-Not Available
A* Services are available at attached hospitals viz. Bangalore Dental College, Minto Eye Hospital and Vani Vilas Hospital (Mother and Child Hospital), Bangalore. And Cheluvamba Hospital (Mother and Child Hospital), Mysore

[71] Desirable in Taluk Hospitals
[72] Desirable in Taluk and District Hospitals

Appendix 3.2
(Reference Paragraph no. 3.2.6.1/Page 45)
Management of OT services in test checked Health institutions

Description	Ballari			Bangalore Urban			Dharwad		Kolar			Mysuru	
	DH Ballari	TH Kudligi	TH Sandur	K C General Hospital	TH K R Puram	TH Yelahanka	TH Kalaghatagi	TH Navalgund	DH Kolar	TH Bangarpet	TH Srinivasapura	TH H D Kote	TH Periyapatna
OT have convenient relationship with surgical ward, intensive care unit, radiology, pathology, blood bank and CSSD	A	A	A	A	A	A	A	A	A	A	A	A	A
Access to facility is provided without any physical barrier and friendly to people with disabilities	A	A	A	A	A	A	A	A	A	A	A	A	A
OT have piped suction and medical gases, electric supply heating, air-conditioning, ventilation	A	A	A	A	A	A	A	A	A	A	A	A	A
Patient's records and clinical information is maintained	A	A	A	A	A	A	A	A	A	A	A	A	A
Has defined and established grievance redressal system in place	A	NA	A	A	A	A	A	A	A	A	A	A	NA
Whether all equipment is covered under AMC including preventive maintenance	A	NA	A	A	A	A	A	NA	NA	A	A	NA	NA
Whether the facility has established procedure for internal and external calibrations of measuring equipment	A	NA	A	A	A	A	A	NA	NA	A	A	NA	NA

A-Available; NA-Not Available

Appendix 3.3 (a)

(Reference Paragraph no. 3.2.6.2/Page 45)
Average number of surgeries per surgeon in test checked SS/MC/DH

Name of Hospital	Year	General		ENT		Ortho		Eye	
		No. of Surgeons	Avg. No. of surgeries	No. of Surgeons	Avg. No. of surgeries	No. of Surgeons	Avg. No. of surgeries	No. of Surgeons	Avg. No. of surgeries
IGICH (SS)	2016-17	7	2,495	1	253	2	661	1	11
	2017-18	7	2,626	1	226	2	763	1	11
	2018-19	7	2,697	1	244	2	655	1	20
	2019-20	7	1,888	1	130	2	415	1	8
	2020-21	7	2,466	1	377	2	547	1	12
	2021-22	7	3,096	1	309	2	796	1	15
	2022-23	7	3,018	1	292	2	878	1	16
KIMS Hubballi (MC)	2016-17	29	37	11	6	16	4	12	4
	2017-18	29	36	10	6	15	4	11	4
	2018-19	28	39	12	6	16	5	12	3
	2019-20	25	40	14	5	18	5	13	4
	2020-21	30	25	13	2	20	3	13	2
	2021-22	24	38	12	4	17	5	12	4
	2022-23	27	52	13	6	18	7	13	7
MMCRI (K R Hospital) (MC)	2016-17	22	169	9	191	13	205	0	0
	2017-18	21	181	9	172	13	202	0	0
	2018-19	24	160	10	170	12	237	0	0
	2019-20	23	160	10	144	12	189	0	0
	2020-21	20	80	11	51	11	87	10	270
	2021-22	20	114	10	78	11	124	10	280
	2022-23	21	181	10	133	11	165	9	607
Victoria Hospital (MC)	2016-17	17	1,794	9	1,472	12	1,128	21	407
	2017-18	20	1,724	9	1,502	12	1,180	33	283
	2018-19	18	1,799	9	1,630	15	1,236	33	317
	2019-20	17	1,910	9	1,493	18	1,328	34	194
	2020-21	17	371	8	79	18	224	35	65
	2021-22	16	1,075	7	623	24	1,046	34	208
	2022-23	14	1,722	10	1,234	24	1,560	35	280
DH Ballari	2016-17	6	387	Only OBG Services available					
	2017-18	7	315	1	9	2	4	1	0
	2018-19	7	363	1	39	2	13	1	2
	2019-20	7	437	1	158	2	27	1	22
	2020-21	6	268	Due to Covid, NA other surgeries were performed except OBG					
	2021-22	6	396	1	205	2	446	1	149
	2022-23	6	769	1	295	2	290	1	401
	2016-17	7	127	3	75	5	66	2	184

Name of Hospital	Year	General		ENT		Ortho		Eye	
		No. of Surgeons	Avg. No. of surgeries	No. of Surgeons	Avg. No. of surgeries	No. of Surgeons	Avg. No. of surgeries	No. of Surgeons	Avg. No. of surgeries
K C General Hospital (DH)	2017-18	7	149	3	77	5	74	2	214
	2018-19	7	160	3	77	5	97	2	350
	2019-20	7	148	3	59	4	126	2	328
	2020-21	8	32	2	18	5	20	2	46
	2021-22	7	87	3	49	5	762	3	167
	2022-23	7	128	3	61	4	136	3	220
DH Kolar	2016-17	3	206	1	20	1	118	2	93
	2017-18	2	272	1	17	1	84	3	87
	2018-19	2	181	1	58	2	28	3	100
	2019-20	3	96	2	72	3	126	3	99
	2020-21	3	82	2	19	3	115	3	14
	2021-22	4	85	2	42	2	217	3	83
	2022-23	4	133	2	76	2	282	3	214

Appendix 3.3(b)

(Reference Paragraph no. 3.2.6.2 /Page 45)
Average number of surgeries per surgeon in test checked TH

Name of Hospital	Year	General		ENT		Ortho		Eye	
		No. of surgeons	Avg. No. of surgeries	No. of surgeons	Avg. No. of surgeries	No. of surgeons	Avg. No. of surgeries	No. of surgeons	Avg. No. of surgeries
Bangarpet	2016-17	NA	NA	NA	NA	NA	NA	NA	NA
	2017-18	NA	NA	NA	NA	NA	NA	NA	NA
	2018-19	NA	NA	NA	NA	NA	NA	NA	NA
	2019-20	1	19	1	18	1	NA	1	206
	2020-21	1	17	1	11	1	NA	1	161
	2021-22	1	40	1	38	1	22	1	284
	2022-23	1	66	1	99	1	118	1	526
HD Kote	2016-17	1	400	1	0	1	0	1	0
	2017-18	1	470	1	7	1	26	1	0
	2018-19	1	486	1	20	1	85	1	0
	2019-20	1	459	1	15	1	74	1	0
	2020-21	1	581	1	2	1	58	1	0
	2021-22	1	444	1	8	1	47	1	0
	2022-23	1	570	1	27	1	247	1	0
Kalaghatagi	2016-17	0	0	0	0	0	0	0	0
	2017-18	1	161	0	0	0	0	0	0
	2018-19	1	268	0	0	1	31	1	0
	2019-20	1	484	0	0	1	65	1	27
	2020-21	1	359	0	0	0	0	1	35
	2021-22	1	399	1	6	1	0	1	89
	2022-23	1	322	1	22	1	2	1	106
K R Puram	2016-17	1	116	1	14	1	96	1	38
	2017-18	1	122	1	37	1	162	1	30
	2018-19	1	134	1	59	1	85	1	5
	2019-20	1	135	1	43	1	89	1	4
	2020-21	1	105	1	45	1	188	1	4
	2021-22	1	179	1	30	1	185	1	3
	2022-23	1	108	1	20	1	167	1	8
Kudligi	2016-17	0	0	0	0	0	0	0	0
	2017-18	0	0	0	0	0	0	0	0
	2018-19	0	0	0	0	0	0	0	0
	2019-20	0	0	0	0	0	0	0	0
	2020-21	0	0	0	0	0	0	0	0
	2021-22	1	24	1	16	1	16	0	0
	2022-23	1	37	1	20	1	28	0	0

Name of Hospital	Year	General		ENT		Ortho		Eye	
		No. of surgeons	Avg. No. of surgeries	No. of surgeons	Avg. No. of surgeries	No. of surgeons	Avg. No. of surgeries	No. of surgeons	Avg. No. of surgeries
Navalgund	2016-17	1	5	1	6	1	5	1	43
	2017-18	1	6	1	7	1	6	1	39
	2018-19	1	114	1	13	1	29	1	54
	2019-20	1	82	1	2	1	12	1	NA
	2020-21	1	19	1	2	1	31	1	NA
	2021-22	1	39	1	11	1	13	1	9
	2022-23	1	122	1	14	1	178	1	63
Periyapatna	2016-17	1	27	1	0	1	17	0	0
	2017-18	1	40	1	0	1	11	0	0
	2018-19	1	37	1	0	1	47	0	0
	2019-20	1	18	1	0	1	52	1	32
	2020-21	1	33	1	21	1	17	1	131
	2021-22	1	96	1	30	1	20	1	258
	2022-23	1	409	1	17	1	37	1	326
Sandur	2016-17	1	1,272	NA	NA	NA	NA	NA	NA
	2017-18	1	1,299	NA	NA	NA	NA	NA	NA
	2018-19	1	1,595	1	NA	1	3	1	NA
	2019-20	1	1,575	1	NA	1	7	1	15
	2020-21	1	1,705	1	NA	1	16	1	24
	2021-22	1	1,698	1	5	1	25	1	20
	2022-23	1	1,385	1	2	1	20	1	321
Srinivasapura	2016-17	1	704	1	9	1	0	1	0
	2017-18	1	887	1	42	1	13	1	0
	2018-19	1	514	1	15	1	5	1	0
	2019-20	1	1,152	1	9	1	14	1	0
	2020-21	1	1,239	0	0	1	32	0	0
	2021-22	1	1,179	0	0	1	32	1	0
	2022-23	1	994	0	0	1	39	1	0
Yelahanka	2016-17	1	238	1	0	1	11	1	77
	2017-18	1	61	1	0	1	0	1	75
	2018-19	1	193	1	84	1	49	1	101
	2019-20	1	67	1	39	1	32	1	31
	2020-21	1	121	1	52	1	26	1	26
	2021-22	1	151	1	92	1	28	1	60
	2022-23	1	79	1	69	1	84	1	124

NA-Not Available

Appendix – 3.4
(Reference: Paragraph – 3.7/Page 67)
Statement showing non-compliance of provisions for blood bank/blood storage units in test checked Health Institutions

Sl. No.	Requirement	Non-compliance of provisions (out of 5 DHs where blood bank facility available)	
		Tertiary care (SS/MC)	Secondary Care (DH/TH)
1	Location of Blood Bank near to Pathology Department, Operation Theatre Department, ICU and Emergency and Accident department	KR hospital	DH Kolar, THs Bangarpet, KR Puram, Kalaghatagi
2	Display of Services provided & schedule of charges displayed at the entrance of Department	Victoria hospital	TH Periyapatna
3	Display of availability of Blood Group prominently in the Blood Bank	-	DH Kolar, TH Periyapatna
4	Validation of Blood bank test results from external labs on regular basis	KR Hospital Victoria hospital	THs Bangarpet, HD Kote, KR Puram, Kalaghatagi, Periyapatna. Yelahanka
5	Availability of checks to prevent expiry of Blood or Blood components	KIMS hospital Victoria hospital	TH Yelahanka
6	Availability of checks in place for reduction of waste	KIMS hospital Victoria hospital	TH Yelahanka
7	Adequacy of staff	KR hospital Victoria hospital	KC General and DH Kolar, THs KR Puram, Kalaghatagi, Yelahanka
8	Adherence of Blood Bank to NACO guidelines, Drugs and Cosmetics, Act	KR hospital	THs HD Kote, KR Puram, Periyapatna, Yelahanka

Source: Information furnished by the test checked HIs

Appendix–3.5
(Reference: Paragraph no. 3.8.9/Page 79)
Availability of essential equipment in Dialysis unit in the test checked Health Institutions

Sl. No.	Hospital	Type	Resuscitation equipment	Oxygen cylinders with flow meter	Suction apparatus	Defibrillator	ECG Machine	Nebulizer	Dialyzer Unit	ACT Machine	Cardiac Monitor
1	Ballari	DH	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
2	K C General	DH	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
3	SNR, Kolar	DH	No	No	No	Yes	No	No	No	No	No
4	HD Kote	TH	Yes	Yes	No	No	Yes	Yes	No	No	No
5	K R Puram	TH	No	Yes	No	Yes	Yes	Yes	Yes	No	No
6	Kalaghatagi	TH	No	Yes	No	No	Yes	Yes	No	No	No
7	Kudligi	TH	Yes	Yes	No	No	Yes	Yes	Yes	No	No
8	Navalgund	TH	No	Yes	No	No	Yes	Yes	No	Yes	No
9	Periyapatna	TH	Yes	Yes	No	No	Yes	Yes	Yes	No	No
10	Srinivasapura	TH	No	No	No	No	Yes	Yes	Yes	No	No
11	Yelahanka	TH	No	Yes	Yes	Yes	Yes	Yes	No	No	No

Source: Information furnished by the test checked HIs

Appendix-4.1
(Reference: Paragraph no. 4.2.2/Page 83)
Illustrative cases where drugs procured locally at the higher rates by the test checked health institutions

(Amount in ₹)

S.No.	Drug Name	Year	Pack Size	Rate per unit (KSMSCL)	Rate per unit (Local Purchase)	Qty	Difference per unit	Total Difference Amount	Difference (in *per cent*)
1	Blood transfusion set NA 1x1	2017-18	1	7.56	18.5	5,000	10.94	54,700	144.7
2	Metoclopramide Injection 5mg/ml 1x2ml	2017-18	1	1.7	4.36	200	2.66	532	156.5
3	Ondansetron Injection 2mg/ml 1x2ml	2017-18	1	1.85	9.95	200	8.1	1620	437.8
4	Suction catheter NA 10 1x1	2017-18	1	3.89	28.44	50	24.55	1,227.5	631.1
5	Urine collection bag with valve outlet. NA 1.5litre 1x1	2017-18	1	15.6	35	50	19.4	970	124.4
6	Dextrose Injection 25% 1x100ml	2017-18	1	10.94	16.11	25	5.17	129.25	47.3
7	Surgical blade NA 22 1x100	2017-18	1	1.99	3.6	200	1.61	322	80.9
8	Sterile disposable IV cannula with inj port NA 24G 1x1	2017-18	1	5.18	17.06	100	11.88	1,188	229.3
9	Dextrose Injection 10% 1x500ml	2017-18	1	17.99	25.59	25	7.6	190	42.2
10	Hydrocortisone Inj.	2019-20	1	12	34	1,900	22	41,800	183.3
11	Diclofenac Inj.25mg	2019-20	1	3.81	3.9	2,400	0.09	216	2.4
12	Diclofenac Inj. 3 ml	2019-20	1	3.81	4	8,000	0.19	1520	5.0
13	Pantoprazole Inj.	2019-20	1	4.89	40	1,500	35.11	52,665	718.0
14	Tramadol Inj. 2 ml	2019-20	1	2.15	19	1,000	16.85	16,850	783.7
15	Amikacin 500 mg	2019-20	1	17.74	77	1,400	59.26	82,964	334.0
16	Ceftriaxone 1 g Inj.	2019-20	1	33.01	44.6	584	11.59	6,768.56	35.1
17	Anti-Rabies Vaccine 2.5 IV	2019-20	1	241	330	50	89	4,450	36.90

Appendix-4.2
(Reference: Paragraph no. 4.2.6/Page 85)
Availability of essential drugs and medicines in the health institutions as on 30 June 2022

Chart 1: Availability of essential drugs at the District Hospitals of the test checked Districts

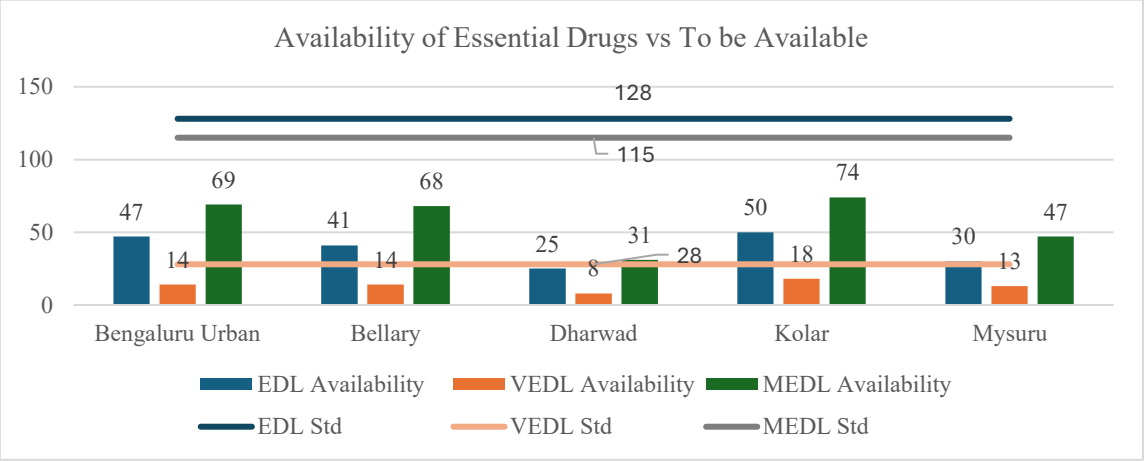


Chart 2: Availability of essential drugs at the Test checked Taluk Hospitals

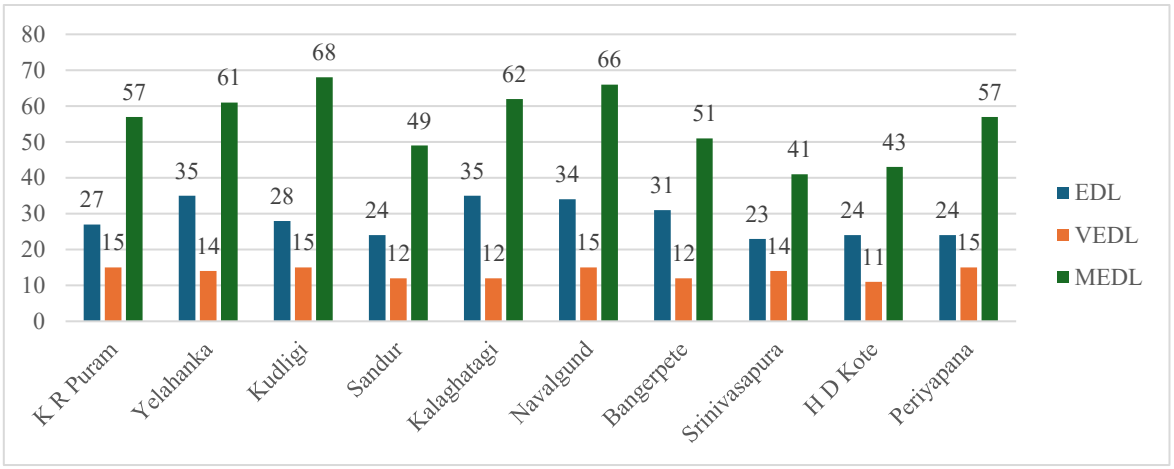
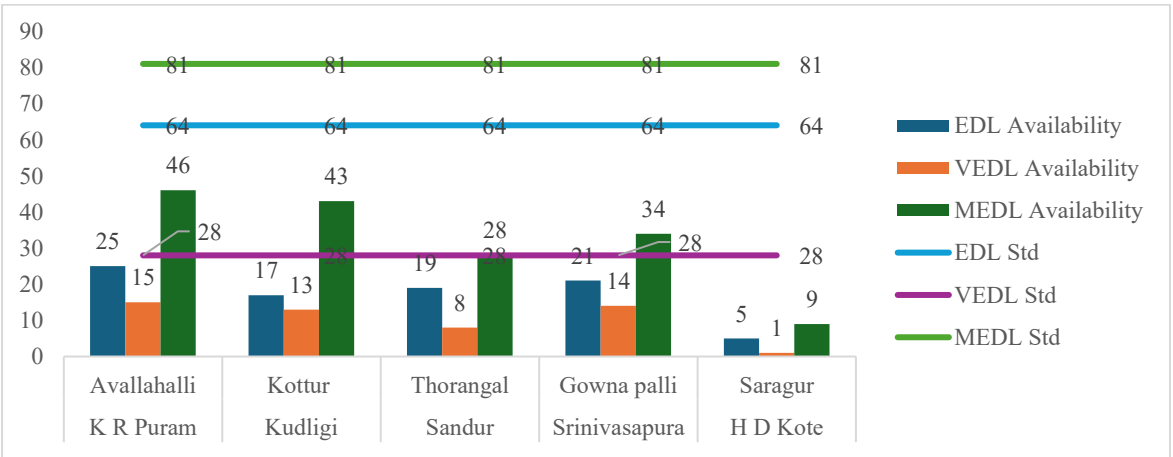


Chart 3: Availability of essential drugs at the CHCs



EDL-Essential Drug List; VEDL-Very Essential Drug List; MEDL- Most Essential Drug List

Appendix-4.3
(Reference: Paragraph no. 4.2.6/Page 85)
Availability of the Drugs[73] in the various wards of the test checked Health Institutions

Sl. No.	Name of the HI	Type	Drugs in IPD		Drugs in OT		Drugs in ICU		Drugs in Emergency	
			Prescribed	Available	Prescribed	Available	Prescribed	Available	Prescribed	Available
1	KIMS, Hubballi	MC	14	11	22	17	14	10	21	17
2	Mysuru Medical College	MC	14	9	22	16	14	9	21	13
3	Victoria Hospital[74] Bengaluru	MC	14	2	22	7	14	7	21	12
4	DH, Ballari	DH	14	10	22	17	14	10	21	Not Available
5	K C General DH Bengaluru Urban	DH	14	Not Available	22	15	14	9	21	16
6	Kolar	DH	14	11	22	15	14	10	21	16
7	Bangarpet	TH	14	14	22	19	14	Not Available	21	19
8	HD Kote	TH	14	8	22	10	14	8	21	15
9	K R Puram	TH	14	9	22	12	14	9	21	10
10	Kalaghatagi	TH	14	9	22	13	14	Not Available	21	16
11	Kudligi	TH	14	8	22	15	14	8	21	Not Available
12	Navalgund	TH	14	Not Available	22	Not Available	14	Not Available	21	15
13	Periyapatna	TH	14	9	22	12	14	9	21	11
14	Sandur	TH	14	8	22	15	14	8	21	Not Available
15	Srinivasapura	TH	14	11	22	16	14	11	21	16
16	Yelahanka	TH	14	11	22	14	14	8	21	Not Available

[73] Average of the test checked months (May 2016, August 2017, November 2018, February 2019, May 2020 and November 2020).
[74] Stock Register for the months May 2016, August 2017, May 2020 and November 2020 not maintained.

Appendix-4.4
(Reference: Paragraph no. 4.3.3/Page 87)
Statement showing delay in release of security lock

Purchase Order Number	WH Request to open lock date	Lock Released On	Drug Name	Expiry Date	WH Name	FY	Shelf Life
KDLWS/2017-18/PO/80	03.04.18	14.05.18	Clotrimazole (Dusting) Powder 1%w/w 1x30g	Jan-18	Ballari WH	2018-19	-103
KDLWS/2017-18/PO/381	27.07.18	01.08.18	Paracetamol Tablet 500mg 1x10x10	May-18	Ballari WH	2018-19	-62
KDLWS/2019-20/PO/161	03.08.20	04.08.20	Oral Rehydration Salts Powder for solution Sodium Chloride 2.6, Glucose Anhydrous 13.5, Potassium Chloride 1.5, Trisodium Citrate Dihydrate 2.9 1x20.5g	Jun-20	Mysuru WH	2020-21	-35
KDLWS/2019-20/PO/161	16.07.20	20.07.20	-do-	May-20	Ballari WH	2020-21	-50
-5KDLWS/2019-20/PO/161	16.07.20	20.07.20	-do-	May-20	Ballari WH	2020-21	-50
KDLWS/2019-20/PO/200	16.07.20	20.07.20	Paracetamol Tablet 500mg 1x10x10	May-20	Ballari WH	2020-21	-50
KDLWS/2019-20/PO/199	16.07.20	20.07.20	Metformin Tablet 500mg 1x10x10	Apr-20	Ballari WH	2020-21	-81
KDLWS/2019-20/PO/7	22.08.20	26.08.20	Calcium carbonate with Vitamin D3 Tablet 500MG+250IU 1x10x10	Jun-20	Ballari WH	2020-21	-57

Appendix 4.5(a)

(Reference: Paragraph no. 4.3.5/Page 88)
Availability of Drugs, Medicines, Equipment and Other Consumables in test checked MC/DH

SI No.	Descriptions	Number required as per IPHS 2012	BMCRI	KIMS Medical College and Hospital	MMCRI	DH Ballari	K C General Hospital Bengaluru	DH Kolar
1	Analgesics/Antipyretics/Anti Inflammatory	11	8	8	6	8	10	4
2	Antibodies/ Chemotherapeutics	76	22	28	22	40	75	31
3	Anti Diarrheal	6	1	1	1	2	6	2
4	Dressing material/ Antiseptic Ointment lotion	28	18	20	13	17	24	13
5	Infusion fluids	14	8	11	8	11	14	10
6	Eye and ENT	25	1	8	2	7	25	7
7	Antihistamines/ Anti Allergic	12	10	9	8	8	12	8
8	Drugs acting on digestive system	20	12	12	5	8	18	7
9	Drugs related to Haemopoietic system	4	2	3	2	3	4	4
10	Drugs acting on cardiovascular system	26	15	18	8	16	26	15
11	Drugs acting on central/peripheral nervous system	40	30	31	12	27	40	25
12	Drugs acting on respiratory system	16	11	10	4	7	16	10
13	Skin ointment/ lotions	23	6	8	2	6	23	9
14	Drugs acting on Uro-genital system	5	4	5	3	5	5	4
15	Drugs used in obstetrics and gynecology	35	15	24	12	22	35	14
16	Hormonal Preparation	14	7	6	2	5	14	5
17	Vitamins	24	13	19	7	16	24	8
18	Other Drugs and material & miscellaneous items	115	40	41	28	47	83	39
19	Emergency lifesaving drugs for SNCU	12	11	11	9	9	12	10
20	Other essential medicines & supplies for SNCU	23	12	20	11	20	23	18
	Total	**529**	**246**	**293**	**165**	**284**	**489**	**243**

Appendix 4.5(b)
(Reference: Paragraph no. 4.3.5/Page 88)
Availability of drugs, lab reagents, consumables and Disposables in test checked THs

Sl. No.	Categories	Number required as per IPHS 2012	Availability in test checked THs									
			Bangarpet	HD Kote	K R Puram	Kalaghatagi	Kudligi	Navalgund	Periyapatna	Sandur	Srinivasapura	Yelahanka
1	Analgesics/Antipyretics/Anti Inflammatory	8	4	5	5	5	5	6	7	6	6	6
2	Antibodies/ Chemotherapeutics	71	15	29	29	30	27	32	23	26	30	27
3	Anti Diarrhoeal	5	1	2	1	1	2	1	1	3	1	1
4	Dressing material/ Antiseptic Ointment lotion	24	12	7	12	11	12	15	12	16	12	12
5	Infusion fluids	14	10	7	8	9	7	10	9	6	8	11
6	Eye and ENT	23	3	5	4	8	4	6	4	4	5	10
7	Antihistaminic/ Anti Allergic	10	6	7	6	6	5	7	7	6	6	6
8	Drugs acting on digestive system	20	6	4	8	9	8	9	6	8	6	6
9	Drugs related to Haemopoietic system	4	2	3	2	3	3	3	3	3	3	1
10	Drugs acting on cardiovascular system	26	11	9	11	11	12	14	15	13	12	15
11	Drugs acting on central/peripheral nervous system	40	23	18	19	18	23	21	21	22	20	21

Sl. No.	Categories	Number required as per IPHS 2012	Availability in test checked THs									
			Bangarpet	HD Kote	K R Puram	Kalaghatagi	Kudligi	Navalgund	Periyapatna	Sandur	Srinivasapura	Yelahanka
12	Drugs acting on respiratory system	15	8	5	8	15	7	8	7	9	7	7
13	Skin ointment/ lotions	18	5	3	4	7	7	9	6	4	4	5
14	Drugs acting on Uro-genital system	5	3	1	4	2	3	4	3	4	2	3
15	Drugs acting on uterus and female genital tracts	14	7	1	5	5	8	7	6	7	5	9
16	Hormonal Preparation	14	3	5	3	3	5	4	4	6	5	1
17	Vitamins	21	11	3	9	7	9	7	4	8	7	6
18	Other Drugs and material & miscellaneous items	64	40	11	28	33	40	37	35	42	36	30
19	Drug kit for sick and newborn & childcare	25	22	13	22	18	20	22	21	22	20	23
	Total	**421**	**192**	**138**	**188**	**201**	**207**	**222**	**194**	**215**	**195**	**200**

Appendix-4.6
(Reference: Paragraph no. 4.4.1/Page 89)
Statement showing the drugs declared NSQ by KSDC

Sl No.	Batch No.	Name of the Emp. Lab	Name of the drugs	Batch Qty	Consumed Qty	Stock on Hand	Freeze Date
1	K001	Delhi Test House	Loperamide Tablet 2mg	37,354	21,760	15,594	12.12.2018
2	K002	Delhi Test House	Loperamide Tablet 2mg	33,067	17,023	16,044	25.01.2019
3	GT81226	Delhi Test House	Mefenamic acid Tablet 500mg	3,415	335	3,080	06.03.2019
4	MAZ65	Ozone Pharmaceuticals	Carbamazepine Tablet 100mg	8,379	4,712	3,667	25.02.2019
5	PET1803	Ozone Pharmaceuticals	Pantoprazole Tablet 40mg	9,950	9,950	0	22.03.2019
6	AHL674	Standard Analytical Lab	Ibuprofen Syrup 100mg/5ml	14,248	9,420	4,828	22.03.2019
	Total			**1,06,413**	**63,200**	**43,213**	

Appendix-4.7

(Reference: Paragraph no. 4.4.2/Page 90)
Storage of drugs, medicines, and surgical items

Sl. No.	Parameters	SS/MC (05)	DH/TH (13)	CHC/PHC (25)	Probable impact of not adhering to parameter
1	Air-conditioned pharmacy	5	9	24	Loss of efficacy and shelf life of drugs
2	Labelled shelves/racks	3	6	9	High turnover time in the disbursement of drugs
3	Away from water and heat	Nil	Nil	Nil	Loss of efficacy and shelf life of drugs
4	Drugs stored above the floor	3	5	11	-do-
5	Drugs stored away from walls	3	6	12	-do-
6	24-hour temperature recording of cold storage	1	1	7	-do-
7	Display instructions for storage of vaccines	Nil	6	6	-do-
8	Functional temperature monitoring device in freezers	1	1	3	-do-
9	Maintenance of temperature chart of deep freezers	2	1	4	-do-
10	Drugs kept under lock and key	2	2	6	Misuse of costly drugs
11	Poisons kept in a locked cup board	2	3	7	Unauthorised access to the dangerous drugs
12	Expired drugs stored separately	2	2	3	Mixing of expired drugs with usable drugs

Appendix-4.8(a)

(Reference: Paragraph no. 4.5.1/Page 90)
Statement showing the availability of equipment in the test checked MCs/DHs as of January 2024

Sl. No.	Type	Number as per IPHS 2012 (Essential & Desirable) (301-500 beds)	Victoria Hospital	MMCRI (KR Hospital) Mysuru	K I M S, Hubballi	DH Ballari	K C General	DH Kolar
1	Imaging Equipment	12	9	11	8	10	8	8
2	X-ray Room accessories	8	4	6	3	7	0[75]	2
3	Cardiopulmonary equipment	13	0	14	12	15	0	3
4	Labor Ward, Neo Natal and Special Newborn Care Unit (SNCU) Equipment	28	23	25	13	25	21	24
5	Special Newborn Care Unit Equipment	12	11	11	10	12	11	11
6	Disinfection of Special Newborn Care Unit Equipment	13	9	9	6	10	6	5
7	Immunization Equipment	16	10	9	13	16	13	12
8	Ear Nose Throat Equipment	23	13	16	17	17	16	15
9	Eye Equipment	27	27	24	22	20	18	21
10	Dental Equipment	42	NA[76]	35	16	26	31	28
11	Laboratory Equipment	87	80	50	29	62	38	45
12	Endoscopy Equipment	8	4	2	7	2	6	2
13	Anaesthesia Equipment	25	24	21	12	13	22	21
14	Postmortem Equipment	9	9	5	6	8	0	4
15	Operation Theatre Equipment	29	16	11	17	16	8	12
16	ICU Equipment[77]	26	24	22	17	26	23	17
17	Emergency Services Equipment[78]	14	14	13	12	14	14	11
18	IPD Equipment	19	15	13	10	18	18	16
TOTAL		**411**	**186**	**297**	**230**	**317**	**253**	**257**

[75] The accessories being outdated are not being utilized by the Hospital.
[76] Not Applicable as there are separate specialised hospitals for Dental Care in the Campus.
[77] As per NHM Assessor's Book.
[78] As per NHM Assessor's Book.

Appendix-4.8(b)
(Reference: Paragraph no. 4.5.1/Page 90)
Statement showing the availability of equipment in the test checked THs as on January 2024.

Sl. No.	Type	No. as per IPHS 2012 (Essential)	Bangarpet	H D Kote	K R Puram	Kalaghatagi	Kudligi	Navalgund	Periyapatna	Sandur	Srinivaspura	Yelahanka
1	Imaging Equipment	5	4	3	3	4	2	3	4	4	4	3
2	X-ray Room accessories	6	3	6	2	6	5	2	5	6	2	3
3	Cardiopulmonary equipment	11	8	8	8	10	8	7	6	9	11	9
4	Labor Ward & Neo Natal Equipment	20	14	16	16	16	13	17	16	15	15	13
5	Immunization Equipment	16	15	7	15	13	13	16	10	16	12	11
6	Ear Nose Throat Equipment	17	7	5	1	0	4	1	4	5	3	6
7	Eye Equipment	9	7	4	4	5	3	6	1	4	4	7
8	Dental Equipment	4	2	4	4	4	3	4	4	4	4	4
9	Operation Theatre Equipment	17	7	8	7	6	10	6	12	7	9	5
10	Laboratory Equipment	32	23	13	16	15	17	18	17	14	27	24
11	Surgical Equipment	29	23	23	20	17	19	14	24	21	22	20
12	Endoscopy Equipment	3	2	1	1	1	1	1	1	1	1	0
13	Anaesthesia Equipment	14	12	8	14	14	12	8	9	12	12	13
14	Postmortem Equipment	10	8	5	0	0	0	0	3	10	8	6
TOTAL		**193**	**135**	**111**	**111**	**111**	**110**	**103**	**116**	**128**	**134**	**124**

Appendix-4.9

(Reference: Paragraph no. 4.5.2/Page 91)
Improper planning in assessment of requirement of the medical equipment

Sl No.	Supply Order	Equipment	Revised Supply Order Date	Quantity	Remarks
1	KDL/EQPT/108/2017-198 dated 28.01.19 (IND 2463)	Pulse Oximeter	22.03.2019	156	Out of 30 consignees, 3 were replaced.
2	KDL/EQPT3/108/2017-198 dated 28.01.19 (IND 463)	X Ray mobile machine	22.03.2019	27	Out of 20 consignees, 1 was replaced.
3	KDL/EQPT/108/2017-198 dated 24.01.19 (IND 463)	Suction Pump	16.03.2019	104	Out of 30 consignees, 3 were replaced
4	KDL/EQPT/103/2017-18 dated 24.12.2018 (IND462)	Ultrasound Colour Doppler	15.02.2019	10	Out of 10 consignees, 4 were replaced.
5	KDL/EQPT/103/2017-18 dated 01.01.2019 (IND 462)	Paediatric Gastroscopic & video endoscopy system	16.05.2019	1	One consignee was replaced.
6	KDL/EQPT/TND/103/2017-18 dated 01.01.2019 (IND 462)	C -Arm with IITV	16.03.2019 & 22.03.2019	9	Out of 9 consignees, 2 were replaced.
7	KDL/EQPT/TND/29/2017-18/ dated 09.07.2018 (IND-444)	Re bound Tonometer	31.08.2018	18	One consignee was replaced
8	KDL/EQPT/53/2018-19 dated 15.06.2019 (IND 541)	Centrifuge	20.12.2019	630	Out of 630 consignees, 21 were replaced
9	KDL/EQPT/TND/78/2018-19 dated 06.07.2019 (IND 571)	Washing Machine	November 2019	48	One consignee was replaced
10	KDL/EQPT/TND/36A/2018-19 dated 18.06.2019 (IND-502)	Steel Almirah	27.08.2019	368	Few were replaced.
11	KDL/EQPT/62(8)//2018-19 dated 06.07.2019 (IND-562)	Ortho Table with attachments	06.04.2019	58	Out of 58, Two consignees were replaced
12	KDL/EQPT/61//2018-19 dated 21.01.2019 (IND-561)	C-Arm	21.08.2019	22	Out of 22, 2 consignees were placed.

Appendix-5.1
(Reference: Paragraph no. 5.1.1 /Page 95)
District wise requirement and availability of CHC/PHC/SC

Sl. No.	Division	Name of the Districts	No. of Sub Centres			No. of Community Health Centres			No. Primary Health Centres		
			Required SC	In Position SC	Excess/ Short	Required CHC	In Position CHC	Excess/ Short	Required PHC	In Position PHC	Excess/ Short
1	**Bengaluru Division**	Bengaluru Rural	157	199	-42	8	2	6.00	29	48	-19
2		Bengaluru Urban	194	123	71	13	5	8.00	55	36	19
3		Chikkaballapura	205	203	2	9	2	7.00	36	57	-21
4		Chitradurga	285	338	-53	15	11	4.00	56	80	-24
5		Davanagere	225	270	-45	11	4	7.00	43	80	-37
6		Kolar	227	251	-24	10	2	8.00	39	63	-24
7		Ramanagara	163	240	-77	7	5	2.00	29	61	-32
8		Shivamogga	239	357	-118	11	7	4.00	46	93	-47
9		Tumakuru	416	572	-156	18	4	14.00	73	144	-71
10	**Mysuru Division**	Chamarajanagar	219	254	-35	11	3	8.00	45	60	-15
11		Chikkamagaluru	220	365	-145	9	5	4.00	34	89	-55
12		Dakshin Kannada	255	430	-175	15	8	7.00	61	65	-4
13		Hassan	276	456	-180	13	15	-2.00	50	134	-84
14		Kodagu	119	196	-77	6	7	-1.00	24	29	-5
15		Mandya	304	399	-95	13	10	3.00	51	113	-62
16		Mysuru	372	510	-138	20	10	10.00	80	118	-38
17		Udupi	197	320	-123	11	6	5.00	48	62	-14
18	**Belagavi Division**	Bagalakote	285	239	46	13	8	5.00	50	48	2
19		Belagavi	795	585	210	34	16	18.00	160	139	21
20		Dharwad	176	185	-9	8	0	8.00	31	33	-2
21		Gadag	149	190	-41	7	2	5.00	25	39	-14
22		Haveri	271	305	-34	12	5	7.00	47	68	-21
23		Uttara Kannada	215	344	-129	14	3	11.00	54	82	-28
24		Vijayapura	397	310	87	17	9	8.00	69	63	6
25	**Kalaburagi Division**	Bidar	282	275	7	15	8	7.00	59	53	6
26		Ballari	225	129	96	13	6	7.00	52	26	26
27		Kalaburagi	404	339	65	17	16	1.00	69	84	-15
28		Koppal	269	173	96	11	9	2.00	45	46	-1
29		Raichur	331	213	118	22	6	16.00	82	50	32
30		Vijayanagar	223	220	3	10	7	3.00	41	52	-11
31		Yadagiri	229	170	59	11	6	5.00	47	41	6

Appendix-5.2
(Reference: Paragraph No. 5.4/Page 99)
Availability of beds in the health institutions (As per IPHS norms, 22 beds per 1,00,000 population)

Sl. No.	Districts	Projected Population 2020-21	Reqd. no. of beds as per IPHS Guidelines	Taluk Hospitals		District Hospitals		Other Hospitals under HFW		Autonomous & Teaching Hospitals**		CHC		PHC		Indian System of Medicine Hospitals		Total no. of beds
				No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds	
1	Bagalakote	21,69,452	477	5	500	1	300	0	0	0	0	8	280	49	290	6	56	1,426
2	Bengaluru Rural	11,67,401	257	4	400	0	0	0	0	0	0	2	60	48	321	3	26	807
3	Bengaluru Urban	1,42,71,577	3140	3	300	0	0	6	1,475	16	6,709	5	150	96	688	10	556	9,878
4	Belagavi	54,26,096	1194	9	900	0	0	0	0	1	740	16	500	148	848	7	54	3,042
5	Ballari	33,80,240	744	6	600	1	300	1	288	2	1,315	11	350	73	502	8	204	3,559
6	Bidar	19,35,760	426	4	400	0	0	0	0	1	750	8	240	58	334	4	41	1,765
7	Vijayapura	26,25,816	578	4	400	1	400	0	0	0	0	9	270	68	366	5	90	1,526
8	Chamarajanagar	10,82,139	238	3	350	0	0	0	0	1	300	3	90	64	434	4	36	1,210
9	Chikkaballapura	12,74,298	280	5	510	1	100	0	0	0	0	2	60	60	393	2	16	1,079
10	Chikkamagaluru	12,42,552	273	6	600	1	400	0	0	0	0	5	170	90	624	4	32	1,826
11	Chitradurga	18,18,420	400	5	500	1	450	0	0	0	0	11	330	82	510	6	52	1,842
12	Dakshina Kannada	23,10,853	508	4	400	1	965	1	0	0	0	8	240	72	416	8	91	2,112
13	Davanagere	17,94,310	395	5	500	1	1,030	0	0	0	0	6	180	101	686	4	32	2,428
14	Dharwad	21,29,928	469	3	300	1	250	0	0	2	1,575	0	0	45	214	3	45	2,384
15	Gadag	11,67,084	257	4	400	0	0	0	0	1	350	2	60	39	244	4	36	1,090

Sl. No.	Districts	Projected Population 2020-21	Reqd. no. of beds as per IPHS Guidelines	Taluk Hospitals		District Hospitals		Other Hospitals under HFW		Autonomous & Teaching Hospitals**		CHC		PHC		Indian System of Medicine Hospitals		Total no. of beds
				No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds	
16	Kalaburagi	30,29,841	667	6	600	0	0	0	0	1	650	16	480	136	894	10	133	2,757
17	Hassan	18,48,630	407	7	950	0	0	0	0	1	750	15	450	69	414	9	97	2,661
18	Haveri	17,76,077	391	6	600	1	250	0	0	0	0	5	150	93	518	4	32	1,550
19	Kodagu	5,60,990	123	2	360	0	0	0	0	1	410	7	310	29	275	7	50	1,405
20	Kolar	17,05,436	375	4	400	1	400	2	0	0	0	2	60	69	458	3	30	1,348
21	Koppal	16,15,277	355	3	300	0	0	0	0	1	340	9	270	49	296	4	32	1,238
22	Mandya	18,50,467	407	6	600	0	0	0	0	1	750	10	300	115	871	7	63	2,584
23	Mysuru	34,37,914	756	6	600	0	0	1	0	3	1,940	10	300	147	905	12	454	4,199
24	Raichur	22,25,308	490	4	400	0	0	0	0	2	870	6	180	52	330	6	61	1,841
25	Ramanagara	11,47,733	253	3	300	1	100	0	0	0	0	4	120	63	429	4	36	985
26	Shivamogga	18,75,987	413	6	650	0	0	0	0	1	950	7	210	110	654	4	140	2,604
27	Tumakuru	27,90,349	614	9	900	1	400	0	0	0	0	4	120	147	998	6	56	2,474
28	Udupi	13,26,053	292	2	200	1	350	0	0	0	0	6	180	62	458	3	30	1,218
29	Uttara Kannada	15,26,064	336	10	1,000	0	0	0	0	1	316	3	110	83	538	5	36	2,000
30	Yadagiri	14,45,226	318	2	200	1	100	0	0	0	0	6	180	42	284	4	24	788
Total		**7,19,57,278**	**15,831**	**146**	**15,120**	**15**	**5,795**	**11**	**2,218**	**36**	**18,715**	**206**	**6,400**	**2359**	**15,192**	**166**	**2,641**	**66,081**

Source: HFWS KHP-2020-21

https://cag.gov.in/ag1/karnataka/en