

CHAPTER I

INTRODUCTION

National Health Policy, 2017 (NHP) consists of goals and objectives relating to (a) health status and programme impact, (b) performance of health systems and (c) strengthening of health systems. These goals are aligned to achieve sustainable development in health sector in keeping with the policy thrust. Goal-3 of Sustainable Development Goals (SDGs)¹, “Good health and wellbeing” calls on countries to ensure healthy lives and promote wellbeing for all at all ages.

The State of Kerala had a population of 334.06 lakh as per Census 2011. The healthcare system of Government of Kerala (GoK) consists of Modern Medicine, Indian Systems of Medicine (ISM)² and Homoeopathy. GoK provides healthcare to the people of the State through the Departments of Health and Family Welfare (HFWD) and AYUSH.

1.1. Health services

The domains considered for the review are shown below.

<p style="text-align: center;"><i>Line services</i></p> <ul style="list-style-type: none"> i. Outdoor patient department ii. Indoor patient department iii. Emergency services iv. Super specialty v. Maternity vi. Blood bank vii. Diagnostic services 	<p style="text-align: center;"><i>Support services</i></p> <ul style="list-style-type: none"> i. Oxygen services ii. Dietary services iii. Laundry services iv. Biomedical waste management v. Ambulance services vi. Mortuary services
<p style="text-align: center;"><i>Auxiliary services</i></p> <ul style="list-style-type: none"> i. Patient safety facilities ii. Patient registration iii. Grievance / complaint redressal iv. Stores 	<p style="text-align: center;"><i>Resource management</i></p> <ul style="list-style-type: none"> i. Building infrastructure ii. Human resource iii. Drugs and consumables iv. Equipment

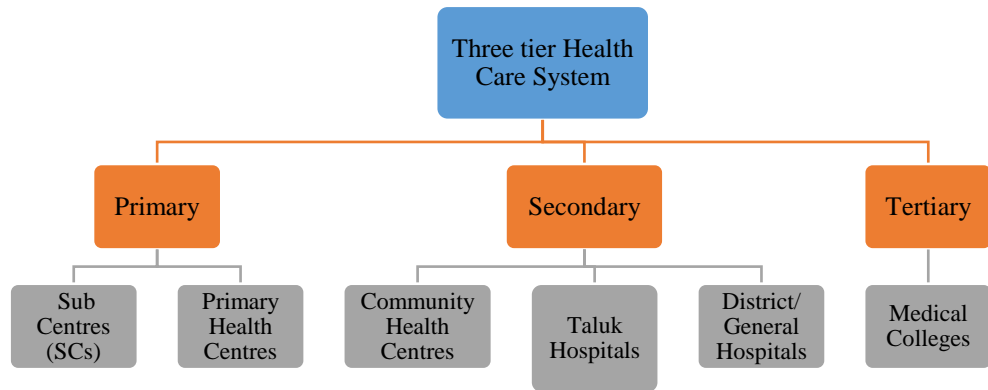
1.2. Overview of healthcare facilities in the State

Public healthcare facilities in Kerala are structured into three levels for providing primary, secondary and tertiary care as shown in **Figure 1.1**.

¹ The SDGs are a universal set of 17 Goals and 169 targets set up in 2015 by the United Nations General Assembly to help organise and streamline development actions for greater achievement of human wellbeing, while leaving no one behind, by 2030.

² ISM consists of Ayurveda, Siddha, Unani, Yoga and Naturopathy.

Figure 1.1: Three levels of public healthcare facilities in Kerala

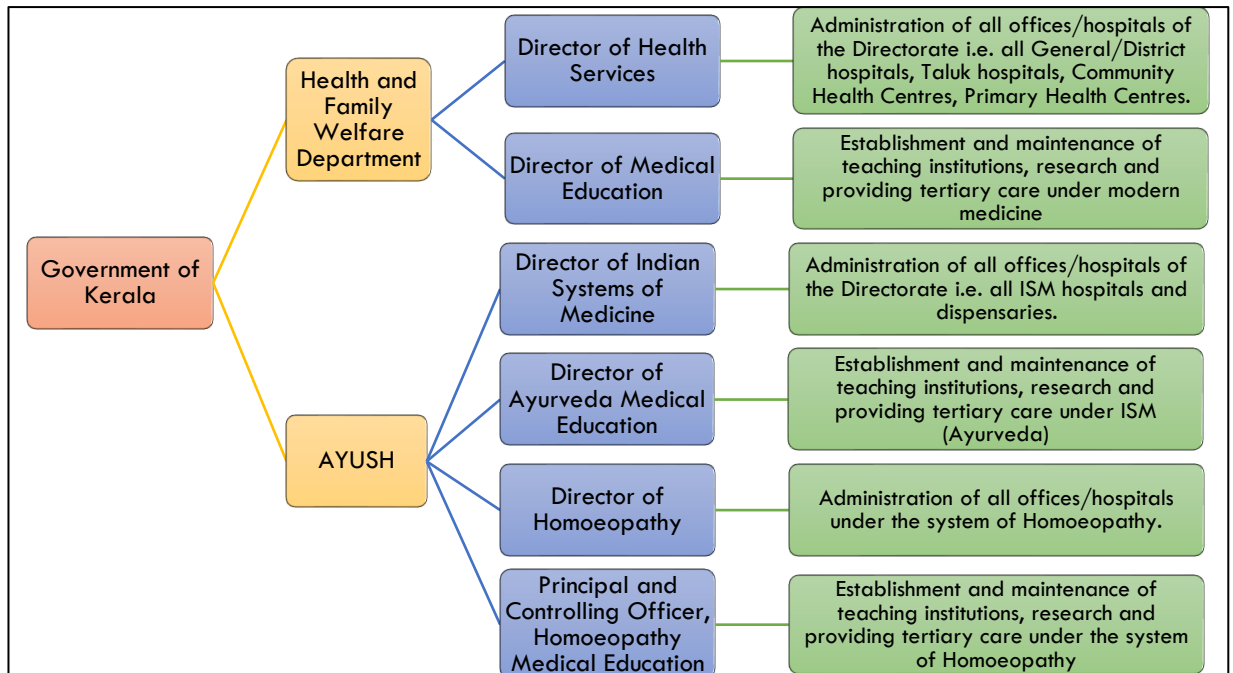


In view of the criticality of health facilities in providing necessary healthcare to the citizens, the Government spending on the same and the glaring gaps in the available health infrastructure which came forth with COVID-19 outbreak, a Performance Audit was conducted covering the period 2016-22 to study the overall performance of health sector in Kerala.

1.3. Organisational set up

Organisational set up of Health and Family Welfare and AYUSH Departments is as shown in **Figure 1.2**.

Figure 1.2: Organisational set up



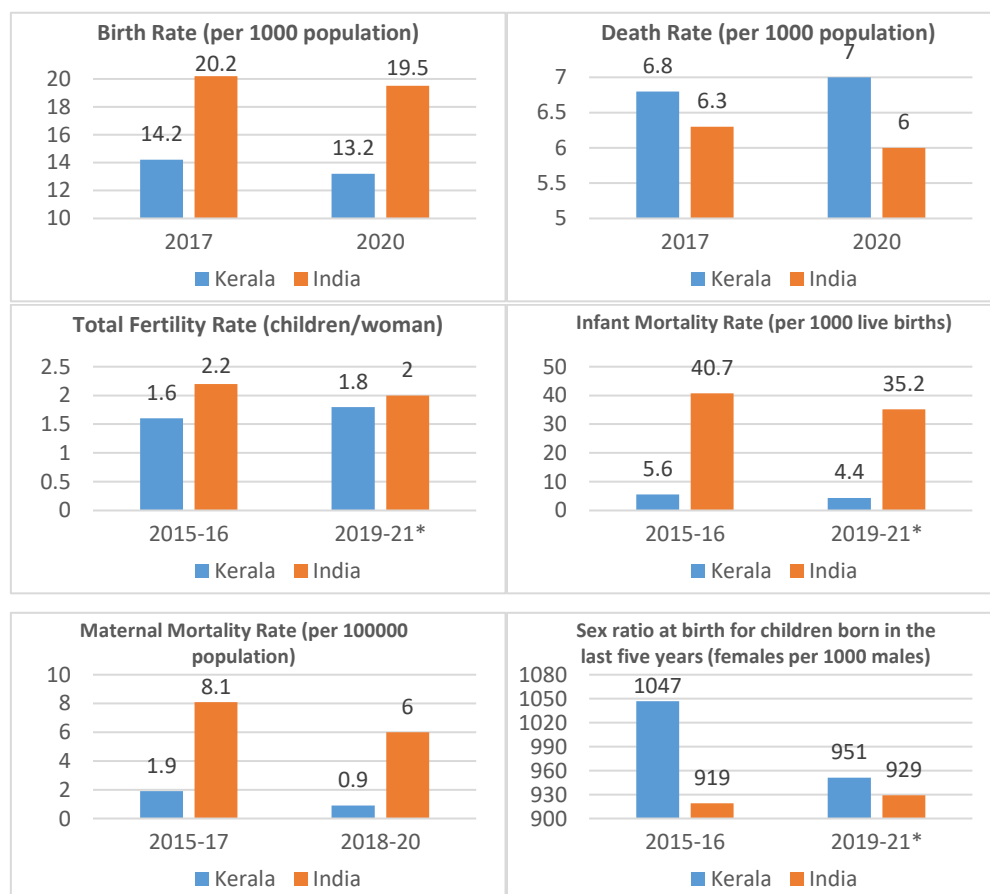
Besides, National Health Mission (NHM) and National AYUSH Mission (NAM) have under their control 503 primary care units functioning under these systems. Kerala Medical Services Corporation Limited (KMSCL) is the agency

for procurement of drugs and equipment for Modern Medicine. The Pharmaceutical Corporation (Indian Medicines) Kerala Limited (Oushadhi) and Kerala State Homoeopathic Cooperative Pharmacy (HOMCO) are the drug manufacturing and supplying agencies for ISM and Homoeopathy respectively.

1.4. Status of Health Indicators in the State

Major health indicators of the State compared with national figures is shown in **Chart 1.1**.

Chart 1.1: Health indicators in the State



* Figure for Kerala pertains to the period 2019-20

(Source: Sample Registration System bulletins for the respective years, National Family Health Survey-5, Special bulletin Maternal Mortality in India)

1.5. Improvement in overall Health Indicators under SDG

The overall performance of Kerala and its performance under Goal 3 - Good health and well-being, as featured under the SDG India Index for the three years 2018-2020 is discussed in paragraph 9.4.1.

1.5.1. Kerala Health Indicators compared with National Health Indicators as per National Family Health Survey

Health indicators of the State compared with National Health Indicators and the progress of the State as per the two National Family Health Surveys (NFHS-4 and NFHS-5) are shown in **Table 1.1**.

Table 1.1: Kerala Health Indicators as per NFHS

Indicator	NFHS-4 (2015-16)		NFHS-5 (2019-21)	
	Kerala	India	Kerala*	India
Sex ratio of the total population (females per 1,000 males)	1049	991	1121	1020
Sex ratio at birth for children born in the last five years (females per 1,000 males)	1047	919	951	929
Total fertility rate (children per woman)	1.6	2.2	1.8	2.0
Neonatal mortality rate (NNMR)	4.4	29.5	3.4	24.9
Infant mortality rate (IMR)	5.6	40.7	4.4	35.2
Under-five mortality rate (U5MR)	7.1	49.7	5.2	41.9
Mothers who had an antenatal check-up in the first trimester (<i>per cent</i>)	95.1	58.6	93.6	70
Mothers who had at least four antenatal care visits (<i>per cent</i>)	90.1	51.2	78.6	58.1
Mothers whose last child birth was protected against neonatal tetanus (<i>per cent</i>)	96.4	89	95.2	92
Mothers who consumed iron folic acid for 100 days or more when they were pregnant (<i>per cent</i>)	67.1	30.3	80	44.1
Mothers who consumed iron folic acid for 180 days or more when they were pregnant (<i>per cent</i>)	47.4	14.4	67	26.0
Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (<i>per cent</i>)	84.2	89.3	91.3	95.9
Mothers who received postnatal care from a doctor/ nurse/ LHV/ ANM/ midwife/ other health personnel within two days of delivery (<i>per cent</i>)	88.7	62.4	93.3	78
Average out-of-pocket expenditure per delivery in a public health facility (₹)	6901	3197	6710	2916
Children born at home who were taken to a health facility for a check-up within 24 hours of birth (<i>per cent</i>)	NA	2.5	NA	4.2
Children who received postnatal care from a doctor/nurse/LHV/ANM/ midwife/other health personnel within two days of delivery (<i>per cent</i>)	NA	NA	91.2	79.1
Institutional births (<i>per cent</i>)	99.8	78.9	99.8	88.6
Institutional births in public facility (<i>per cent</i>)	38.3	52.1	34.1	61.9
Home births that were conducted by skilled health personnel (<i>per cent</i>)	0.1	4.3	0.2	3.2
Births attended by skilled health personnel (<i>per cent</i>)	99.9	81.4	100	89.4
Births delivered by caesarean section (<i>per cent</i>)	35.8	17.2	38.9	21.5
Births in a private health facility that were delivered by caesarean section (<i>per cent</i>)	38.6	40.9	39.9	47.4
Births in a public health facility that were delivered by caesarean section (<i>per cent</i>)	31.4	11.9	37.2	14.3

NA – Not Available

*Figure for Kerala pertains to the period 2019-20

State health indicators, which have been shaded green above have improved, those which have deteriorated are shaded red.

(Source: NFHS 4 and 5)

1.6. Audit Objectives

The Performance Audit has been carried out to examine:

- the availability of necessary human resources at all levels e.g., doctors, nursing staff, paramedics, etc.,

- the availability and management of healthcare infrastructure,
- the availability of drugs, medicines, equipment and other consumables,
- the adequacy of funding for healthcare,
- the adequacy and effectiveness of the regulatory mechanisms for ensuring quality healthcare services and
- whether the State spending on health has improved the health and wellbeing of people as per SDG-3.

1.7. Audit Scope and Methodology

Six directorates

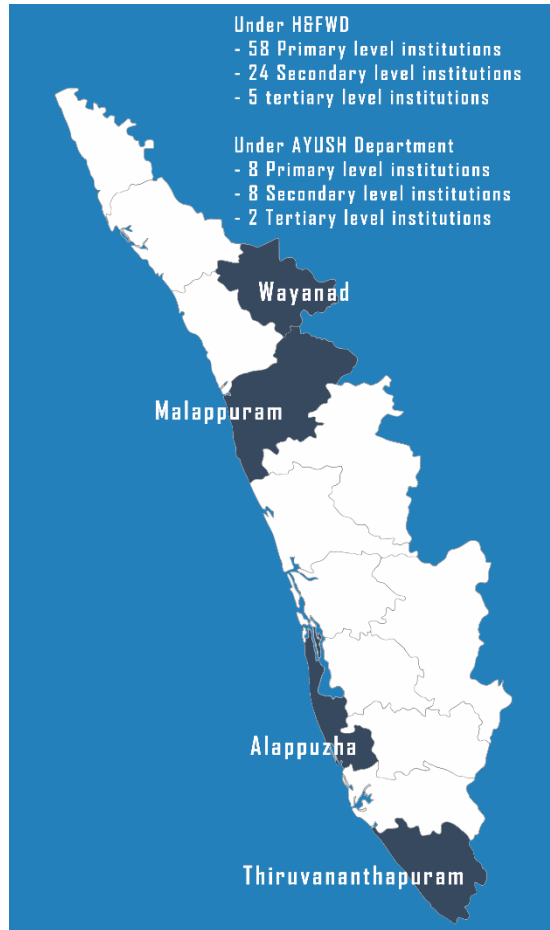
- Directorate of Health Services
- Directorate of Medical Education
- Directorate of Indian Systems of Medicine
- Directorate of Ayurveda Medical Education
- Directorate of Homoeopathy
- Office of the Principal and Controlling Officer, Homoeopathy Medical Education

Four districts (Thiruvananthapuram, Alappuzha, Malappuram and Wayanad) for field study out of 14 districts selected using Stratified Random Sampling Method

- Seven out of 13 District/ General Hospitals in selected districts
- Seven out of 23 Taluk/ Taluk Headquarters Hospitals
- Three out of 10 Speciality Hospitals
- Seven out of 58 Community Health Centres (CHCs)
- 32 out of 248 Primary Health Centres (PHCs)
- Six out of 35 Urban PHCs
- 20 out of 1641 Sub Centres
- Two AYUSH hospitals and two AYUSH dispensaries each from the selected districts
- All Medical Colleges in the selected districts (three Medical Colleges, one Dental College and SAT hospital under modern medicine and two Medical Colleges under AYUSH)

Audit scope covered scrutiny of records for the period 2016-22 in HFWD and Department of AYUSH and Directorates thereunder, Departments of Local Self-Government, Programme Implementation Evaluation and Monitoring and Environment and Climate Change, Office of the Drugs Controller (DC), State Planning Board, State Pollution Control Board, NHM, NAM, KMSCL, drug manufacturing units of Oushadhi and HOMCO. Also, District level offices and 105 healthcare institutions in four selected districts were selected as sample units out of 9,153 healthcare institutions (**Appendix 1.1**) functioning under the Departments in the State.

Districts selected for Audit in Kerala are depicted on the map below:



The list of institutions selected are given in **Appendix 1.2**.

Audit methodology was in accordance with the CAG's Auditing Standards, 2017 and involved scrutiny and analysis of records/ data as per the audit objectives, scope and criteria, evidence gathering by scanning records, joint physical inspection of various facilities of the test-checked hospitals and by taking photographs, issuing questionnaires/ audit observations and obtaining replies, etc. Analysis of database of web application (Drug Distribution and Management System of KMSCL) was also conducted.

The Entry Conferences were held with the Additional Chief Secretary (ACS) and the Principal Secretary, HFW on 03 November 2021 and with the Principal Secretary, AYUSH Department on 01 February 2022 wherein audit objectives, audit criteria, audit scope and methodology were discussed. The Exit Conference was held on 31 August 2022 with the ACS, HFW wherein the audit findings were discussed in detail.

GoK replies pertaining to DME (October 2022) and KMSCL (November 2023) under the HFW, ISM and Homoeopathy under the AYUSH Department (October 2023) and for paragraphs relating to SDG and Bio-Medical Waste management (September 2023) were received and incorporated in the Report. Response of GoK relating to DHS and DC is yet to be received (February 2024).

1.8. Consideration of Ayushman Bharat in this Report

Government of India (GoI) had 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 of two inter-related components:

- Creation of HWCs.
- Pradhan Mantri Jan Arogya Yojana (PMJAY).

HWCs

- Creation of 1,50,000 HWCs by transforming the existing Sub Centres and Primary Health Centres.
- Aim to deliver Comprehensive Primary Health Care (CPHC) covering maternal and child health services and non-communicable diseases, including free essential drugs and diagnostic services.

PMJAY

- Aims to provide a cover of ₹ five 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 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 1,393 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 V and VII of this Report.

1.9. Doctors'/ Patients' survey

Audit conducted beneficiary survey of 400 patients in selected hospitals and a survey of 200 doctors serving in various departments of selected healthcare facilities on random basis.

1.10. Audit Criteria

The audit findings were derived from the audit criteria including National Health Policy, 2017, National Medical Commission Act, 2019, Indian Public Health Standards, 2012, Bio-Medical Waste Management Rules, 1998 and 2016, etc., as given in **Appendix 1.3**.

1.11. Acknowledgement

Audit acknowledges the cooperation extended by Health and Family Welfare Department and AYUSH Department and also appreciates the assistance provided by the field functionaries of these Departments for the smooth conduct of the Audit.

1.12. Structure of the Report

The Report has been divided into the following Chapters (besides Chapter I):

- Chapter II : Human resources
- Chapter III : Healthcare services
- Chapter IV : Availability of drugs, medicines, equipment and other consumables
- Chapter V : Healthcare infrastructure
- Chapter VI : Financial management
- Chapter VII : Implementation of Centrally Sponsored Schemes
- Chapter VIII: Adequacy and effectiveness of the regulatory mechanisms
- Chapter IX : Sustainable Development Goal – 3