

Chapter I

Introduction

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World Health Organisation defined health as a state of complete physical, mental, and social wellbeing rather than mere absence of disease and infirmity. Public health is the science and art of preventing disease, prolonging life and promoting life through organised efforts of the Government and society. Public health has made a significant impact on the health of the population, making people healthy and saving lives.

Public health infrastructure provides communities, States, and Nation the capacity to prevent disease, promote health, and prepare for and respond to both acute (emergency) threats and chronic (ongoing) challenges to health. It is the foundation for planning, delivering, evaluating and improving public health. Public health services depend on the availability of basic infrastructure.

Every public health program such as immunisation, infectious disease monitoring, cancer and asthma prevention, drinking water quality and injury prevention requires health professionals who are competent in cross-cutting and technical skills, up-to-date information systems and capacities to assess and respond to community health needs. Public health infrastructure is “the nerve centre of public health system”.

Adequate funds, drugs, equipment and human resource are essential for prudent management of health services.

Life expectancy refers to the number of years a person can expect to live. It is an important way of assessing the health of a population and is used to inform health policy and initiatives that impact everyday life.

The Life expectancy of India, Andhra Pradesh and its neighbouring states is shown in **Table 1.1**.

Table 1.1: Life Expectancy in Andhra Pradesh and India

Life expectancy at birth	Andhra Pradesh	Kerala	Karnataka	Tamil Nadu	India
2014-18	69.7	75.2	69.2	71.7	69.0
2015-19	70.3	75.2	69.5	72.6	69.7
2016-20	70.6	75.0	69.8	73.2	70.0

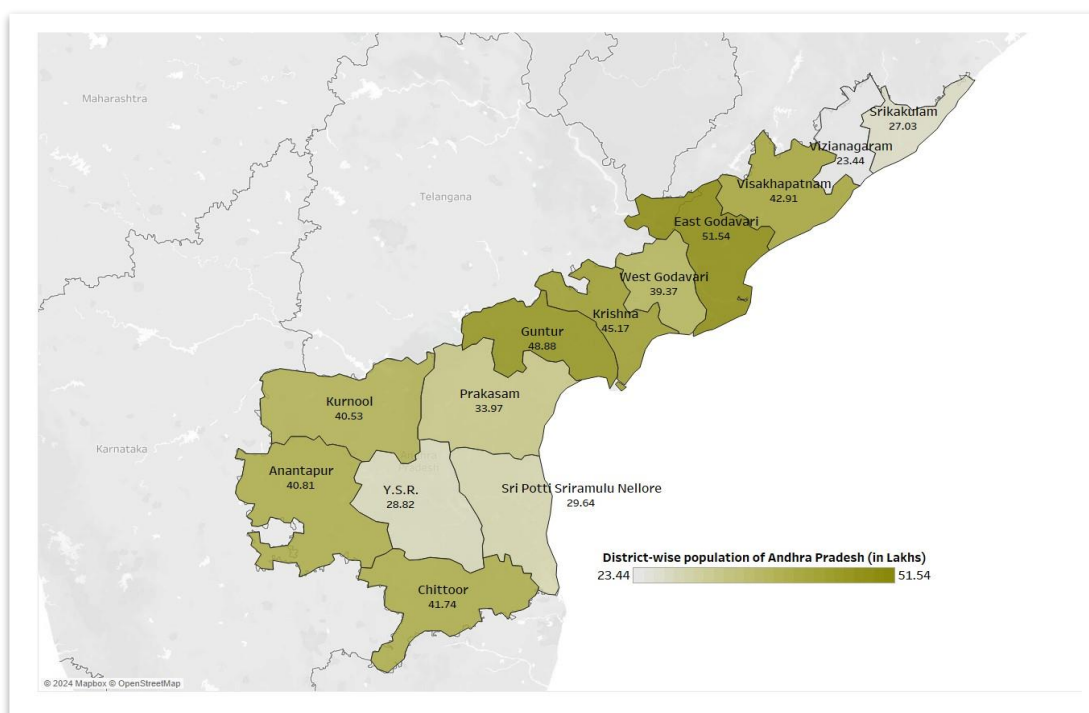
Source: Office of the Registrar General of India, Ministry of Home Affairs

Though life expectancy at birth in Andhra Pradesh is above the country’s average, it is below that of southern States of Kerala and Tamil Nadu.

1.2 Profile & demographics of Andhra Pradesh

The State of Andhra Pradesh has 26 districts after reorganisation of the erstwhile 13 districts with effect from April 2022. The population of the State as per census 2011 is 4,93,86,799. (Female 2.46 crore & Male 2.47 crore). Estimated population of the State in 2022 is 5,28,95,000. District wise population (2011 census) is shown in **Map 1.1**.

Map 1.1: Andhra Pradesh district wise population



1.3 Health indicators of Andhra Pradesh compared with National Health Indicators as per National Family Health Survey-5 (NFHS-5)

Government of India (GoI) designated the International Institute for Population Sciences (IIPS) as nodal agency to provide essential data for policy making and programme purposes. IIPS, collaborated with number of field organisations, conducted National Family Health Survey. Important health indicators of Andhra Pradesh and National indicators were compared in **Table 1.2**.

Table 1.2: Andhra Pradesh Health Indicators as per NFHS 5

Indicator	NFHS -4 (2015-16)		NFHS-5 (2019-21)	
	Andhra Pradesh	India	Andhra Pradesh	India
Sex ratio of the total population (females per 1,000 males)	1021	991	1045	1020
Sex ratio at birth for children born in the last five years (females per 1,000 males)	914	919	934	929
Total fertility rate (children per woman)	1.8	2.2	1.7	2.1
Neonatal mortality rate (NNMR)	23.6	29.5	19.9	24.9
Infant mortality rate (IMR)	34.9	40.7	30.3	35.2
Under-five mortality rate (U5MR)	40.8	49.7	35.2	41.9
Mothers who had an antenatal check-up in the first trimester (%)	82.3	58.6	81.7	70
Mothers who had at least 4 antenatal care visits (%)	76.3	51.2	67.5	58.1
Mothers whose last birth was protected against neonatal tetanus ⁶ (%)	94.9	89	92.8	92

⁶ includes mothers with two injections during the pregnancy for their last birth, or two or more injections (the last within three 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.

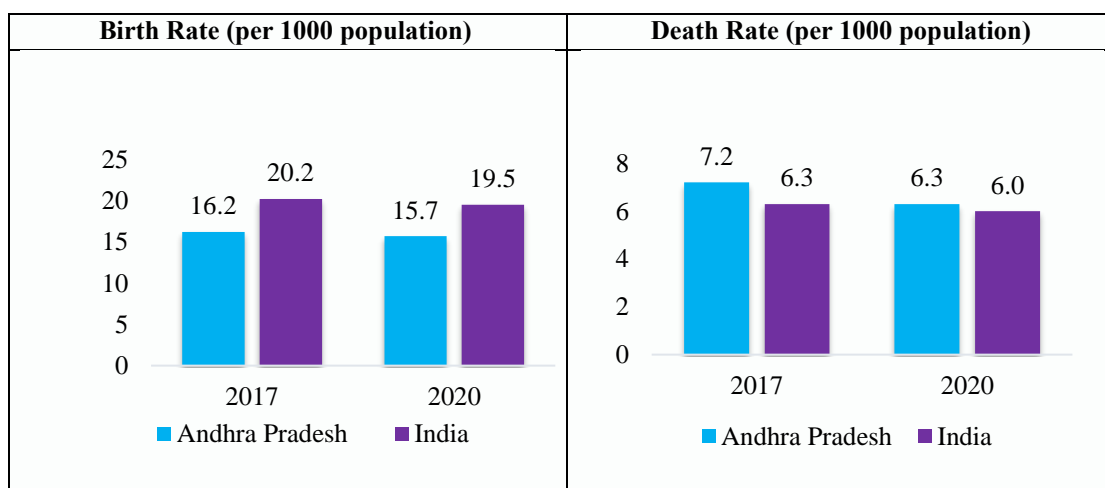
Indicator	NFHS -4 (2015-16)		NFHS-5 (2019-21)	
	Andhra Pradesh	India	Andhra Pradesh	India
Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	56.1	30.3	70.3	44.1
Mothers who consumed iron folic acid for 180 days or more when they were pregnant (%)	30.6	14.4	41.1	26
Registered pregnancies for which the mother received a Mother and Child Protection (MCP) card (%)	92.6	89.3	96.5	95.9
Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery (%)	79.7	62.4	90.7	78
Average out-of-pocket expenditure per delivery in a public health facility (₹)	2322	3197	3105	2196
Children born at home who were taken to a health facility for a check-up within 24 hours of birth (%)	9.3	2.4	17.2	4.2
Institutional births (%)	91.5	78.9	96.5	88.6
Institutional births in public facility (%)	38.3	52.1	50.4	61.9
Births attended by skilled health personnel (%)	92.1	81.4	96.1	89.4
Births delivered by caesarean section (%)	40.1	17.2	42.4	21.5
Births in a private health facility that were delivered by caesarean section (%)	57	40.9	63	47.4
Births in a public health facility that were delivered by caesarean section (%)	25.5	11.9	26.6	14.3

Source: NFHS 4 and NFHS 5. State health indicators in green above have improved and in red deteriorated.

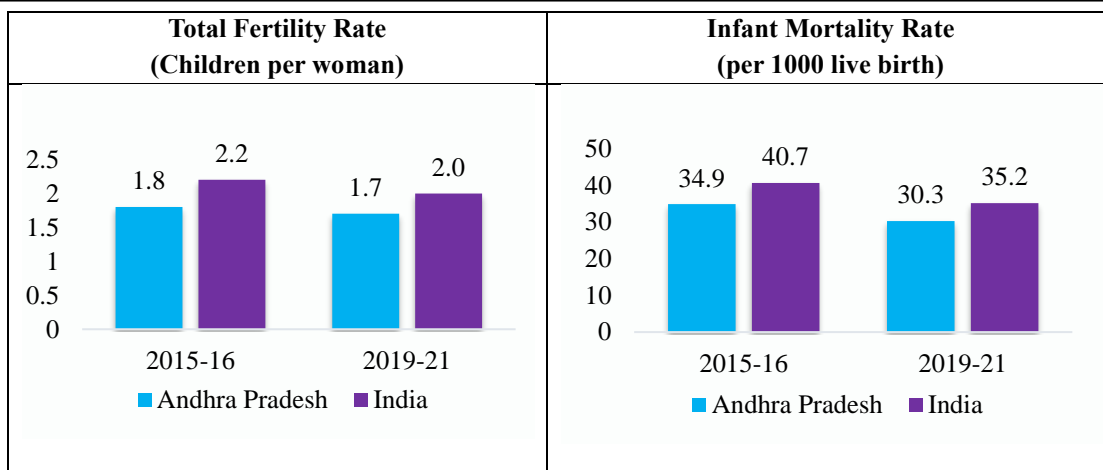
1.3.1 Status of Health Indicators in the State

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. Ministry of Health and Family Welfare conducts the periodic National Family Health Survey which captures various health indicators. The status of health indicators in the State is shown in *Chart 1.1* below:

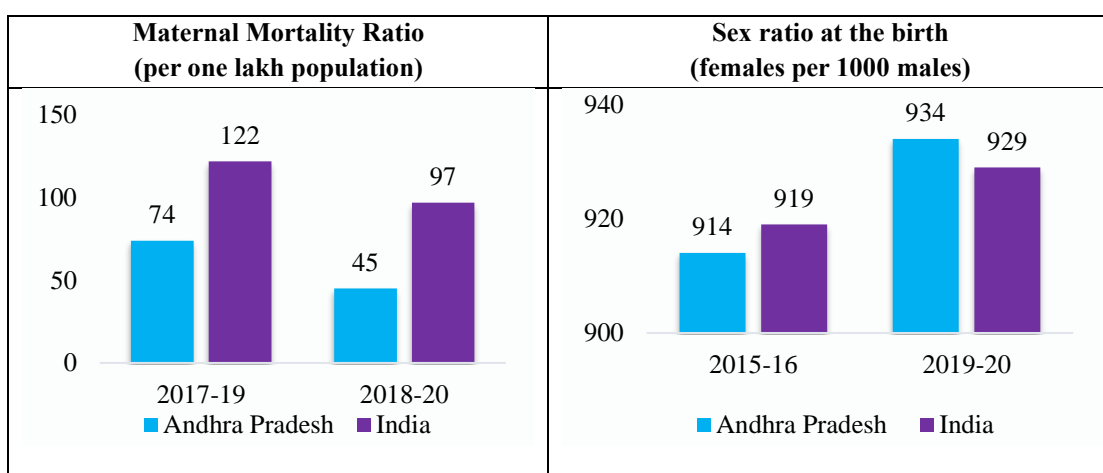
Chart 1.1: Health indicators in the State



Source: SRS Bulletin 2017 & 2020



Source: NFHS-5 2019-21

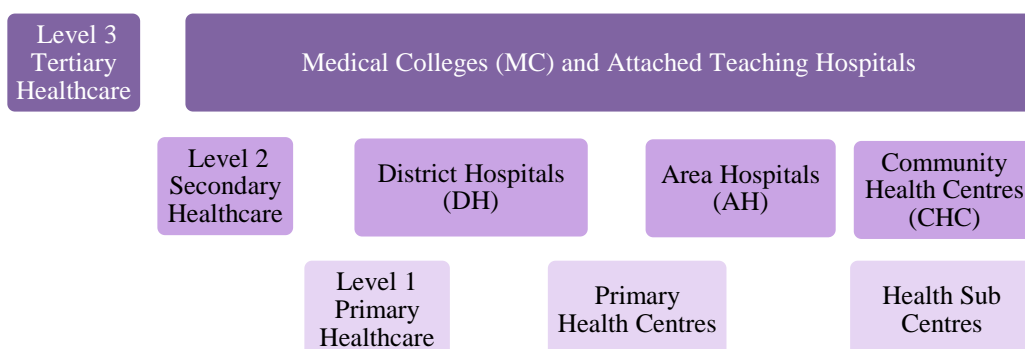


Source: SRS Bulletin on MMR 2017-19 and 2018-20 Source: NFHS-5

1.4 Public health organisational structure in the State

Availability, accessibility and usability of sound healthcare system is an essential requirement to meet the challenges in the field of Health. The Department of Health, Medical & Family Welfare (HM&FW) is the nodal department entrusted with the responsibility of providing health care in Andhra Pradesh. The public healthcare facilities in the State are divided into three levels (**Chart 1.2**) for providing primary, secondary and tertiary care.

Chart 1.2: Structure of Three tier healthcare facilities in the State



The Health Care Facilities available in Andhra Pradesh, as of March 2022 are given in **Table 1.3**.

Table 1.3: Healthcare facilities in the State

Type of Healthcare	Type of HCF	No. of HCFs
Primary Healthcare	Health Sub Centres (HSCs)	10,032
	Primary Health Centres (PHCs)	1,145
Secondary Healthcare	Community Health Centres (CHCs)	175
	Area Hospitals (AHs)	53
	District Hospitals (DHs)	12
Tertiary Healthcare	Government Medical Colleges and attached Hospitals	11
AYUSH	Dispensaries	735
	Hospitals	8
	Government Ayurvedic College	1
	Government Homeo Medical Colleges	3

Source: Data provided by the respective HoDs

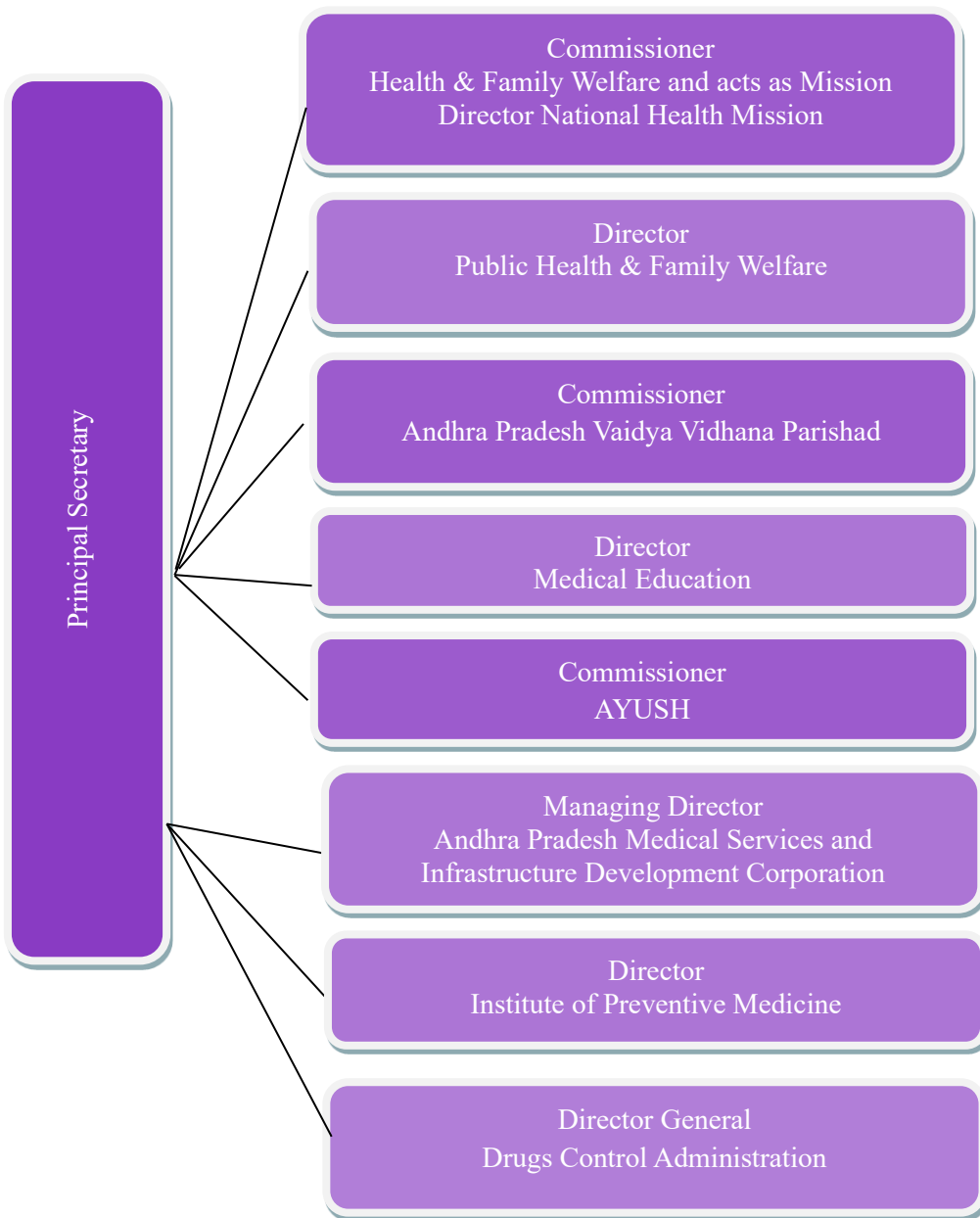
In addition to HCFs as above in western or allopathic system, HCFs exist in an indigenous system of medicine called AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy) being practiced in the Indian sub-continent.

Health care services include medical care, Maternal and Child Health (MCH) including family planning, Medical Termination of Pregnancy (MTP), management of Reproductive Tract Infection (RTI)/ Sexually Transmitted Infections (STI), nutrition, school health, adolescent health care, prevention and control of locally endemic diseases, collection and reporting of vital events, Physical Medicine and Rehabilitation(PMR), laboratory and diagnostic services, referral services, monitoring and supervision, Outpatient, In-Patient, 24 hours Emergency, Referral services proactively provide the community with designated ranges of curative, promotive and preventive services to address the health care needs of the catchment population.

The organisational structure of the Health, Medical and Family Welfare Department is given in **Chart 1.3** and detailed in **Appendix 1.1**.

Chart 1.3: Organisational Chart

ORGANOGRAM



1.5 Audit Objectives

This audit is aimed at assessing the performance of Government of Andhra Pradesh (GoAP) in planning and providing Public Health Infrastructure and Management of Health services in Andhra Pradesh. Audit also analysed the status with respect to achieving the intended outcomes envisaged in SDG 3 (Good Health and Wellbeing).

Audit was conducted to assess whether:

- Funding for healthcare is adequate at primary and secondary levels
- Availability of drugs, medicines, equipment, and other consumables in the health facilities is adequate,
- The availability and management of Healthcare Infrastructure is efficient and effective,
- The facilities/ hospitals have adequate human resources,
- Regulatory mechanisms for ensuring that quality health care services are provided by Public/ Private Health care facilities/ Practitioners were adequate and effective,
- Government spending on health has improved the health and wellbeing of people as per SDG 3, and
- Implementation of various schemes of Government of India including the assistance/ Grants/ equipment received by State is effective.

1.6 Audit criteria

The Performance Audit (PA) was benchmarked against the following Rules and Guidelines.

- National Health Policy, 2017
- United Nations Sustainable Development Goal-3
- Indian Public Health Standards (IPHS-2012 Revised)
- Drugs & Cosmetics Act, 1940 & Rules, 1945
- AP Allopathic Private Medical Care Establishment Act, 2002
- NHM Assessor's Guidebook for Quality Assurances, 2018
- Ayushman Bharat Comprehensive Primary Health Care guidelines, 2018
- National Quality Assurance Standards (NQAS)
- Minimum Standard Requirements for the Medical College Regulations, 1999
- Medical Council of India Act, 1956 as replaced by the National Medical Commission Act, 2019
- Bio Medical Waste Management Rules, 2016
- Indian Medicine Central Council (Requirement of minimum standard for undergraduate Ayurveda Colleges and attached hospitals) Regulations, 2016
- Homoeopathy Central Council (minimum standards requirement of Homoeopathic colleges and attached hospitals) Regulations, 2013

- Departmental Rules / Orders issued from time to time

1.7 Audit scope and methodology

The PA covering the period from 2017-18 to 2021-22, was conducted during May 2022 to November 2022. Audit covered the performance of HCFs of Primary, Secondary and Tertiary Healthcare of allopathy system of medicine. Besides, we have also examined the tertiary healthcare institutions of AYUSH.

Audit methodology involved scrutiny of relevant records in the following offices related to Public Health.

- Principal Secretary, Health, Medical & Family Welfare
- Commissionerate of Health & Family Welfare and Mission Director, National Health Mission (NHM)
- Commissioner of Andhra Pradesh Vaidya Vidhana Parishad (APVVP)
- Director of Public Health and Family Welfare
- Director of Medical Education
- Commissioner of AYUSH
- Managing Director, Andhra Pradesh Medical Services Infrastructure Development Corporation (APMSIDC)
- Director of Drugs Control Administration (DCA)
- District Medical and Health Offices

We selected three districts out of erstwhile 13 districts and 32 HCFs in these selected districts through SRSWOR⁷. In each selected district, offices of the AP Pollution Control Board (APPCB) and the Drugs Control Administration (DCA) were consulted, wherever the information was required. The detailed sample is given in **Appendix 1.2**.

For availability of drugs, equipment & kits, ten common ailments⁸ were selected and the findings of the test check in sampled hospitals for these ailments were discussed in the Report.

Apart from detailed examination in sampled HCFs, we included summary of Human Resources (HR), services and facilities in all District Hospitals. A summary of HR in all the PHCs of the State is also included.

Audit objectives, Sample and Methodology were explained to the representatives⁹ of the State Government in entry conference held on 6 April 2022. Audit findings were discussed with the Principal Secretary and Heads of the Departments in the exit conference held on 12 July 2023.

⁷ Simple Random Sampling without Replacement

⁸ Pregnancy and childbirth, Child health (Newborn/Infant/under five), Diabetes, Hypertension, Cardiovascular diseases, Diarrhoea, Malaria, Pneumonia (Both children & adults), Bite injuries (Snakes and dogs), Psychiatric conditions.

⁹ Dr V. Vinod Kumar, IAS- Commissioner, APVVP, Col. V.Ramulu, IPOS – Commissioner, Ayush, Dr. G.Hymavathi- Director of PH&FW and its representatives.

Government in its reply (August 2023) accepted some of the observations and assured compliance. Audit further visited 10 PHCs¹⁰ during September 2023 in the erstwhile Krishna and Guntur districts to verify the veracity of replies given by the Government.

1.8 Structure of the Report

Audit findings are discussed in the following nine Chapters of the report:

Chapter II	Human Resources
Chapter III	Healthcare Services
Chapter IV	Availability of Drugs, Medicines, Equipment, and other consumables
Chapter V	Availability and management of Healthcare Infrastructure in the State
Chapter VI	Financial Management
Chapter VII	Implementation of Centrally Sponsored Schemes
Chapter VIII	Adequacy and effectiveness of the regulatory mechanisms
Chapter IX	SDG 3 Good Health and Wellbeing
Chapter X	Functioning of AYUSH

¹⁰ Durgi, Mutukuru, Dhulipudi, Emani, Munnangi, Velagaleru, Agiripalli, Kondapalli, Kapileswarapuram and Srikakulam