

CHAPTER 1

Introduction

Chapter 1: Introduction

1.1 Introduction

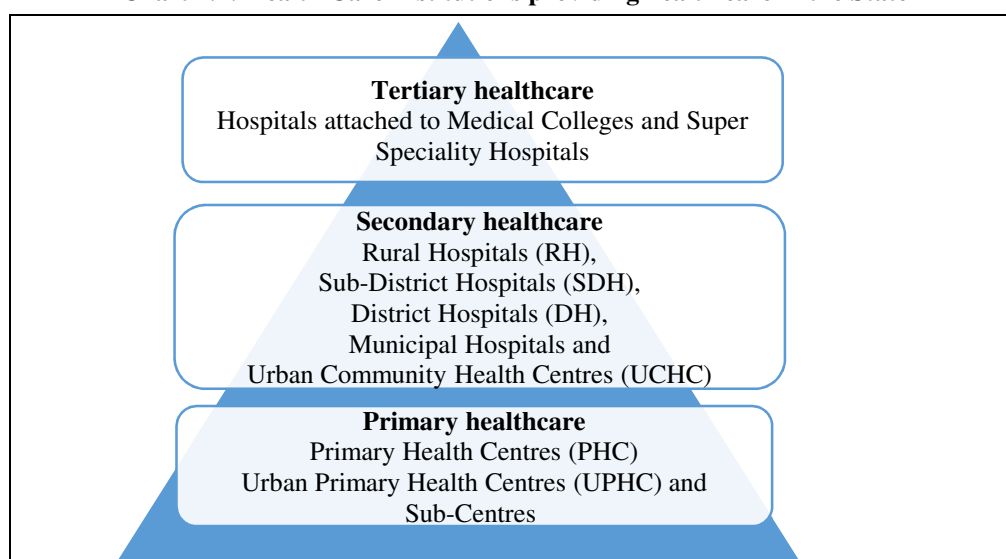
Health is a vital indicator of human development and a basic ingredient of economic and social development. A robust public health infrastructure and effective management of health services are of vital importance to ensure good health of citizens. The public health infrastructure comprises of hospitals and other health care institutions (HCIs) while the health services comprise of services such as emergency, preventative, rehabilitative, long-term hospitalisation, diagnostic, primary, palliative, and home care. These services can be broadly divided into three categories namely:

- (a) **Line Services:** Services directly related to patient care like Outdoor Patient Department, Indoor Patient Department, Emergency, Super Speciality, Intensive Care Units, Operation Theatre, Blood Bank, Maternity and Diagnostic services.
- (b) **Support Services:** Services indirectly related to patient care like Oxygen Services, Dietary Services, Laundry Services, Bio-Medical Waste Management, Ambulance Services and Mortuary Services.
- (c) **Auxiliary Services:** Services for facilitating the delivery of healthcare services like patient safety facilities, patient registration, grievance/complaint redressal and stores.

1.2 Healthcare facilities in Maharashtra

The landscape of public healthcare facilities in the State is structured into three levels for providing primary healthcare, secondary healthcare and tertiary healthcare. Primary and secondary healthcare are provided by the Public Health Department (PHD), Government of Maharashtra (GoM) while tertiary healthcare is provided mostly by the Medical Education and Drugs Department (MEDD), GoM. Primary, secondary and tertiary healthcare are also provided through Municipal Corporations/Councils. The various HCIs providing primary, secondary and tertiary healthcare are shown in **Chart 1.1**.

Chart 1.1: Health Care Institutions providing health care in the State

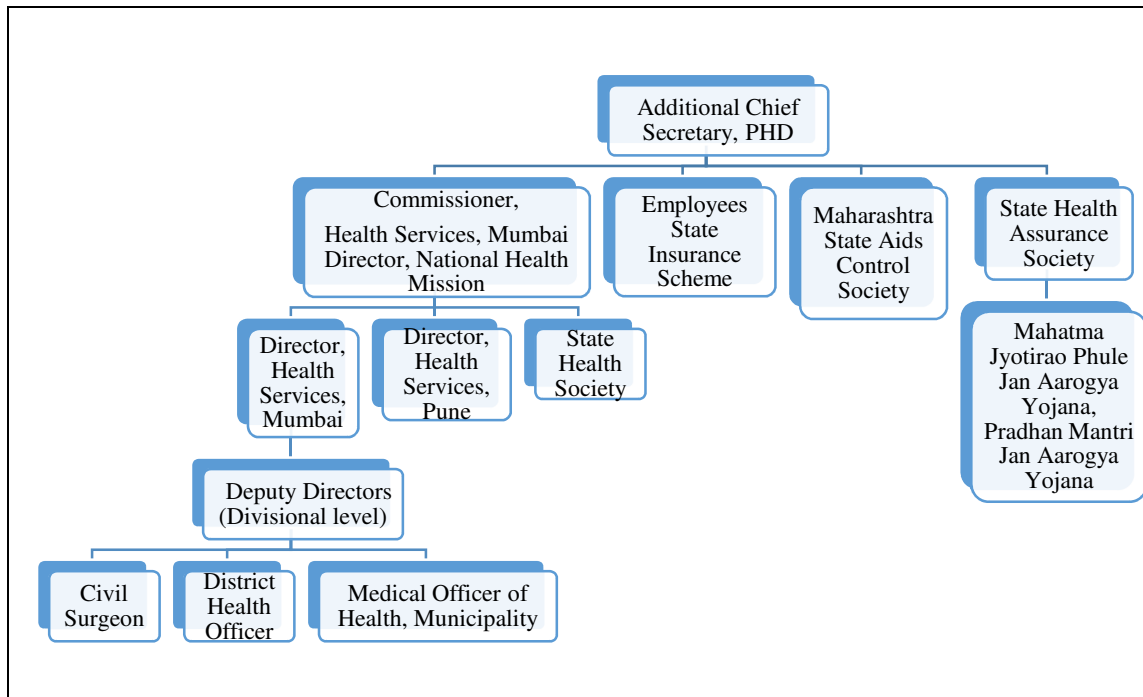


Source: Data compiled from information received from PHD and MEDD

1.3 Organisational Setup

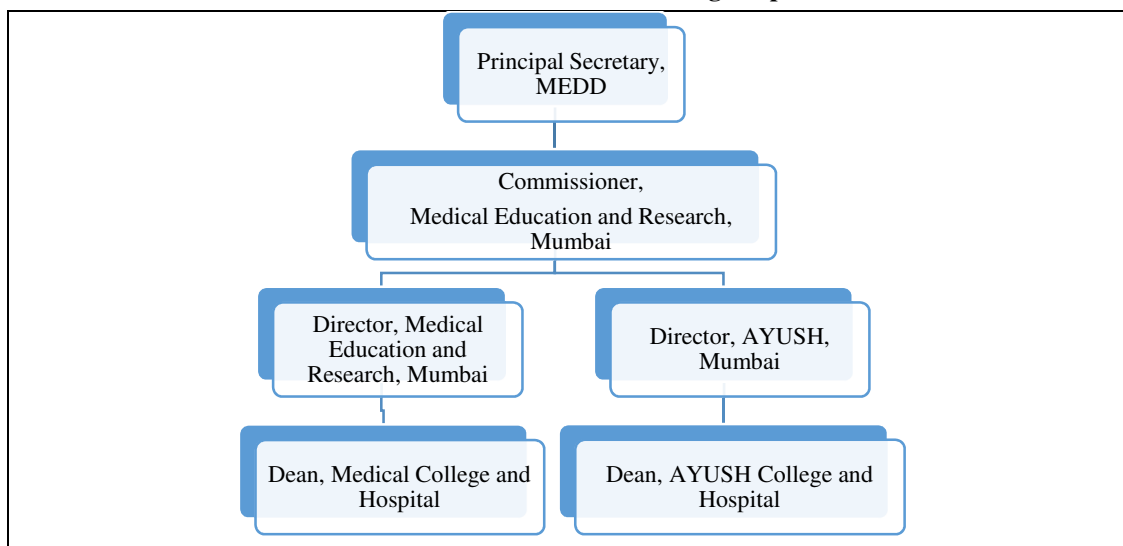
The PHD and MEDD are the nodal departments concerned with public health in the State. The District Health Officer/Medical Officer under Zilla Parishads report functionally to the Deputy Directors of Health Services of PHD and administratively to Chief Executive Officer, Zilla Parishads. The functional hierarchy of PHD and MEDD is shown in **Chart 1.2** and **1.3**.

Chart 1.2: Public Health Department



Source: Information furnished by Public Health Department

Chart 1.3: Medical Education and Drugs Department



Source: Information furnished by Medical Education and Drugs Department

The Municipal Hospitals, Urban Community Health Centres (UCHCs) and Urban Primary Health Centres (UPHCs) function under administrative control of respective Municipal Corporations.

The Haffkine Bio-Pharmaceutical Corporation Limited (HBPCL), a Government of Maharashtra Company was entrusted (July 2017) with the purchase of all drugs and medical equipment in the State for PHD and MEDD. The Local Bodies in the State, however, had the option of procuring through HBPCL or through their own procurement system.

1.4 Public Health Funding

The State Government makes budgetary provisions annually for the State's health sector. Financial assistance under the National Health Mission is received from the Government of India with corresponding share of the State Government in the ratio of 60:40. The State Health Society disburses these funds to the District Health Societies for further release to the implementing units such as Community Health Centres, Primary Health Centres and Sub-Centres, etc.

1.4.1 Expenditure on Healthcare

Expenditure on health and family welfare is an important parameter to gauge the importance given to this sector by Government. Funds expended during the financial year 2016-17 to 2021-22 on health and family welfare by GoM are shown in **Table 1.1**.

Table 1.1: Expenditure on health and family welfare by PHD and MEDD

Particulars	Expenditure on Health and Family Welfare (₹ in crore)					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Gross State Domestic Product (GSDP)	21,98,185	23,52,782	25,67,897 ¹	27,34,552 ²	27,11,685 ³	31,97,782 ⁴
Revenue Expenditure on Health and Family Welfare	10,121.43	11,604.72	11,969.31	13,576.27	16,102.16	19,455.10
Capital Expenditure on Health and Family Welfare	602.37	569.85	1,036.72	1,115.86	989.70	1,612.23
Loans and Advances on Health and Family Welfare	0.02	0	0	0	0	0
Total Expenditure	10,723.82	12,174.57	13,006.03	14,692.13	17,091.86	21,067.33
Percentage of expenditure on health vis-à-vis GSDP (in per cent)	0.49	0.52	0.51	0.54	0.63	0.66
Total expenditure of the State (Capital outlay + Revenue expenditure + Loans and advances)	2,45,055.20	2,69,392.50	3,03,615.90	3,38,690.60	3,42,638.30	3,98,792.31
Percentage of expenditure on health vis-à-vis total expenditure of the State	4.38	4.52	4.28	4.34	4.99	5.28

Source: Compiled from State Finance Accounts of Maharashtra for the year 2016-17 to 2021-22 and Economic Survey of Maharashtra for the year 2021-22

Health expenditure as a percentage of the GSDP ranged between 0.49 per cent (2016-17) and 0.66 per cent (2021-22). Similarly, health expenditure as a percentage of total expenditure of the State ranged between 4.28 per cent (2018-19) and 5.28 per cent (2021-22). However, the State's performance in

¹ 2018-19: Third revised estimates.

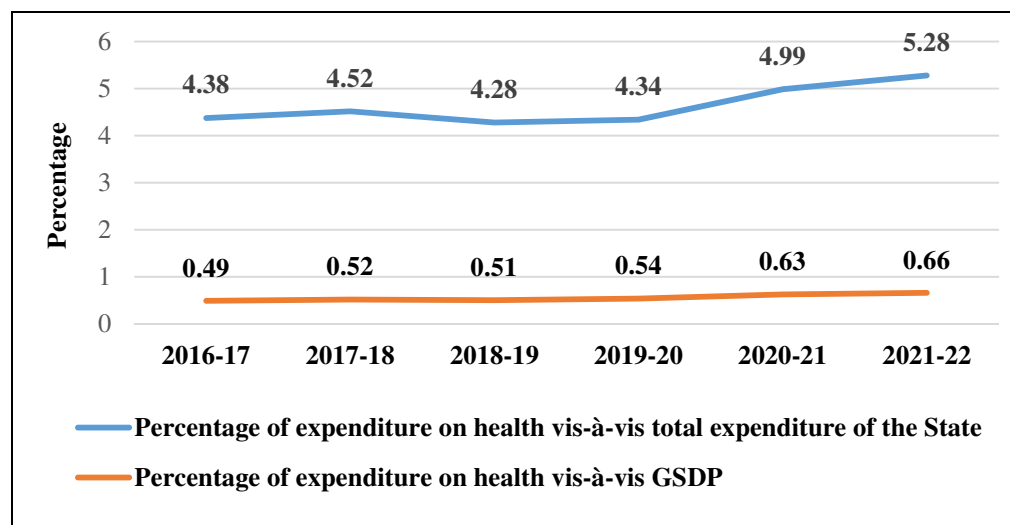
² 2019-20: Second revised estimate.

³ 2020-21: First revised estimate.

⁴ 2021-22: Advance estimate.

terms of expenditure on health as a percentage of GSDP and the total expenditure of the State showed an increasing trend as shown in **Chart 1.4**.

Chart 1.4: Expenditure on healthcare as a percentage of GSDP and total expenditure of the State



Source: Compiled from State Finance Accounts of Maharashtra for the year 2016-17 to 2021-22 and Economic Survey of Maharashtra for the year 2021-22.

1.5 Health Infrastructure

To deliver quality health services, adequate and properly maintained infrastructure is of critical importance. The availability of HCIs in Maharashtra is shown in **Table 1.2** and **Table 1.3**.

Table 1.2: Health care Institutions under PHD as of March 2022

Sr. No.	Health Care Institution under PHD	Number of units
1	District Hospitals	22 ⁵
2	Women Hospitals	20 ⁶
3	Mental Hospitals	04
4	Rural Hospitals ⁷ (30 bedded)	364
5	Sub-District Hospitals (50 bedded)	63
6	Sub-District Hospitals (100 bedded)	32
7	Other General Hospitals	08
8	Tuberculosis (TB) Hospitals	05
9	Leprosy Hospitals	02
10	Super Speciality Hospitals	02
11	Primary Health Centres	1906
12	Sub-Centers	10,740
	Total	13,168

Source "Comprehensive Note for 1st Session of Year (February 2023)" prepared by Public Health Department

⁵ Number of District Hospitals had reduced from 22 to 21 as of May 2023, since one District Hospital was attached to newly establish Medical College.

⁶ One Women Hospital in Dhule district was under construction and therefore the employees were working in District Hospital, Dhule.

⁷ In Maharashtra Community Health Centre is termed as Rural Hospital (RH).

Table 1.3: Government Medical Colleges in Maharashtra as of March 2022

Sr. No.	Health Care Institutions under MEDD	Number of units
1	Government Medical Colleges*	19 ⁸
2	Private Medical Colleges	18
3	Brihanmumbai Municipal Corporation (BMC) Medical Colleges [#]	04
4	Deemed University (Medical)	10
5	Kasturba Health Society's M.G. Medical College, Sevagram, Wardha	01
6	Rajiv Gandhi Medical College, Thane (under Thane Municipal Corporation)	01
7	Dental Colleges Government: 03 Other (BMC): 01 Private: 25 Deemed University: 08	37
8	Nursing Education Institutes Government: 04 Private: 117	121
9	Ayurveda, Yoga, Unani, Siddha and Homoeopathy (AYUSH) Government Colleges [^] : 05 ⁹ Private: 131	136
	Total	347

Source: Information Compiled from the Performance Budget of the MEDD for the year 2021-22

*27 Hospitals attached to 19 Medical Colleges¹⁰ excluding six training health units

Four Hospitals attached to Four Medical Colleges

[^]Five hospitals are attached to five AYUSH colleges

Thus, there were 13,515 HCIs (PHD: 13,168 HCIs and MEDD: 347 HCIs) in the State excluding HCIs functioning under UDD as of March 2022. The list of Government medical colleges and attached hospitals including AYUSH colleges and attached hospitals is shown in **Appendix 1.1**.

1.6 Human Resources in Healthcare

The availability of adequate manpower is essential to provide effective health services. The availability of doctors in Maharashtra in PHD and MEDD is shown in **Table 1.4**.

Table 1.4: Men-in-position of doctors in PHD and MEDD as of May 2023

Sr. No.	Name of the Department	Sanctioned Strength	Persons in Position
1	Public Health Department [#]	7,672	5,989
2	Medical Education and Drugs Department [§]	3,722	2,341
	Total	11,394	8,330

Source: [#]Information furnished by District Health Officers and District Civil Surgeons in May 2023". [§]Data furnished by MEDD in May 2023

As seen from **Table 1.4**, as against the sanctioned strength of 11,394 doctors, the available doctors was 8,330. In addition, under National Health Mission,

⁸ Number of medical colleges has increased from 19 to 21 as of May 2023.

⁹ Number of Government AYUSH medical colleges had increased from five to seven as of May 2023. A total of seven hospitals were attached to these seven colleges. In addition, there are two more Government AYUSH hospitals in the State as of May 2023.

¹⁰ Number of medical colleges has increased from 19 to 21 and the number of attached hospitals increased from 27 to 29 hospitals as of May 2023.

against the sanctioned strength of 7,540 contractual specialist doctors/medical officers, the persons in position was 4,701 as of March 2023.

1.7 Status of Health Indicators in the State

As per the National Family Health Survey (Report No. 4 and 5) issued by the Ministry of Health and Family Welfare, GoI, the status of Maharashtra *vis-à-vis* the national average against some important health indicators is shown in **Table 1.5**.

Table 1.5: Comparison of Health indicators in Maharashtra *vis-à-vis* India

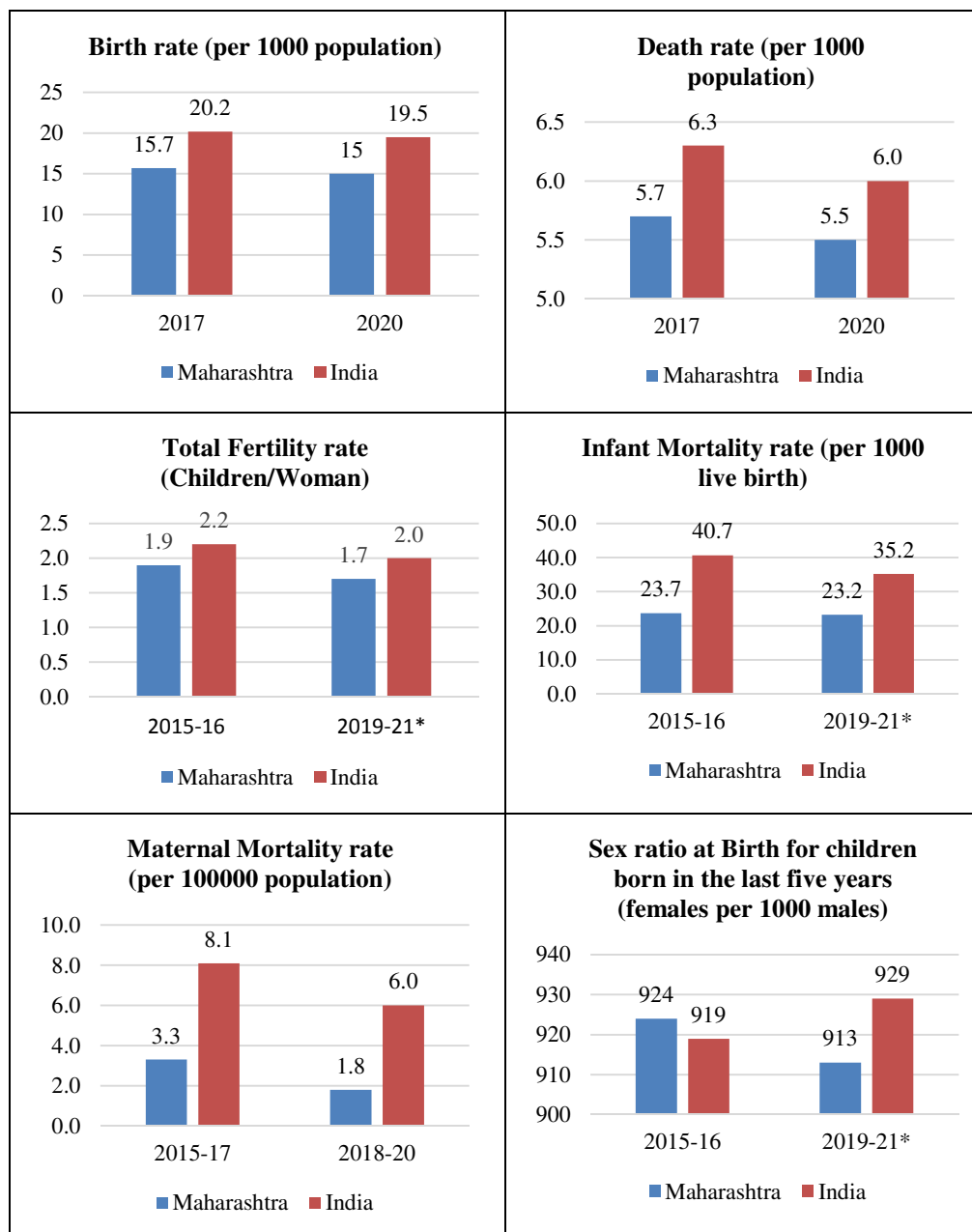
Sr. No.	Health Indicators	NFHS 4		NFHS 5	
		Maharashtra	India	Maharashtra	India
1	Neo-natal Mortality rate	16.2	29.5	16.5	24.9
2	Infant Mortality rate	23.7	40.7	23.2	35.2
3	Under Five Mortality rate	28.7	49.7	28.0	41.9
4	Total children Aged 6-23 months received an adequate diet (<i>per cent</i>)	6.5	9.6	9.0	11.3
5	Children under five year who are stunted (<i>per cent</i>)	34.4	38.4	35.2	35.5
6	Children aged 12-23 months fully vaccinated (<i>per cent</i>)	56.2	62.0	73.5	76.4
7	Children aged 6-59 month who are anaemic (<i>per cent</i>)	53.8	58.6	68.9	67.1
8	Pregnant women aged 15-49 years who are anaemic (<i>per cent</i>)	49.3	50.4	45.7	52.2
9	All women aged 15-49 years who are anaemic (<i>per cent</i>)	48.0	53.1	54.2	57.0

Source: National Family Health Survey (Report No. 4 and 5) issued by Ministry of Health and Family Welfare, GoI

Out of the nine health indicators shown in **Table 1.5**, the performance of the State was better than the All India performance in six indicators (Serial No. 1,2,3,5,8 and 9 of Table 1.5) as per NFHS 5. Further, there was improvement in five health indicators (Serial No. 2,3,4,6 and 8 of Table 1.5) of the State as per NFHS 5 compared to NFHS 4.

Major health indicators of the State compared with national figures are shown in **Chart 1.5**.

Chart 1.5: Health indicators in the State



*Figure for Maharashtra pertains to the period 2019-20

(Source: Sample Registration System bulletins for the respective years, National Family Health Survey Report No. 4 and 5, Special bulletin Maternal Mortality in India)

As seen from **Chart 1.5**, the performance of the State was better in all the indicators than the All India indicators except sex ratio at birth for children born in the last five years.

1.8 Performance against SDG-3

The Sustainable Development Goals (SDGs) 2030, also known as the Global Goals, were adopted by the United Nations in the year 2015 as a universal call of action to end poverty, protect the planet, and ensure that by the year 2030, all people enjoy peace and prosperity. The 17 SDGs and 169 targets are part of the

2030 Agenda for Sustainable Development adopted by 193 Member States at the UN General Assembly summit held in September 2015 and came into effect from 1 January 2016.

The Planning Department, GoM is the nodal department for the implementation of SDGs in the State. The audit findings on SDG-3 have been incorporated in Chapter 9 of the Report.

“Good Health and Well-being” -(SDG 3) is one of the 17 SDGs. The SDG-3 proposes to end preventable death of newborns, infants, and children under five years (child mortality) and end epidemics. A comparison of status of health indicators under SDG-3 of Maharashtra with All India score is shown in **Table 1.6**.

Table 1.6: Status of Health Indicators under SDG-3 in Maharashtra as of December 2023

Indicator number	Particulars of Indicator	India	Maharashtra
3.1	Maternal Mortality Ratio (MMR) (per 1,00,000 live births)	97	33
3.1.2	Percentage of births attended by skilled health personnel	89.4	93.8
3.2	Under five-year mortality rate (per 1,000 live births)	32	18
3.b.1	Percentage of children in the age group 12-23 months fully immunised	76.6	81.7
3.7.3	Percentage of institutional deliveries out of the total deliveries reported	90.6	94.7
3.8.7	Percentage of TB cases successfully treated	86	87

Source: National Indicator Framework on SDG 3.0 and Information furnished by DHS, Mumbai

As seen from **Table 1.6**, the performance of the State in all the indicators was better than the All-India average.

1.9 Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana

Ministry of Health & Family Welfare, GoI launched (September 2018) Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) to provide health cover, *inter alia*, to families included in the Socio-Economic Caste Census (SECC), 2011. The health cover was ₹ five lakh per year per family. In Maharashtra, 74.37 lakh beneficiaries were registered under AB-PMJAY as of March 2022. The audit findings on the implementation of AB-PMJAY are included in Chapter 7 of the Report.

1.10 State Health Policy

Public health is a State subject and States are expected to frame their own policies on the lines of the National Health Policy, 2017 (NHP) to guide the development of the health sector in each State. Audit observed that the GoM had not yet framed a State-specific Health Policy.

1.11 Status of adoption of Indian Public Health Standards

Indian Public Health Standards (IPHS) are a set of uniform standards envisaged to improve the quality of health care delivery in the country. IPHS are the benchmarks for the quality expected from various health care organisations.

Table 1.7: Status of adherence to standardisation of services and resources

Intervention/Inputs	Availability of State Government Norms	Other standards/Norms	Audit remarks
Outpatient Department (OPD)/Inpatient Department (IPD)	State Government is following IPHS	Indian Public Health Standards (IPHS)	Audit scrutiny revealed that HCIs were not able to cater to patients as per IPHS norms in respect of various outpatient and inpatient services as brought in Chapter 3 of the report.
Human Resources	State Government is following IPHS	IPHS	Audit scrutiny revealed that the sanctioned strength of doctors was less than the requirement as per IPHS and also shortage in the cadre of nurses and paramedics as discussed in Chapter 2 of the report.
Drugs and Consumables	Essential drug List	IPHS, Maternal and New born Health Toolkit, National Health Mission guidelines	Essential drugs list was last updated in 2019, containing 198 medicines for various therapeutic uses. Out of the essential drugs, few drugs were marked as vital drugs. Audit scrutiny revealed shortfalls in the availability of vital drugs in HCIs as discussed in Chapter 4 of the report.
Equipment	State Government is following IPHS.	IPHS	Audit scrutiny revealed shortages in the availability of essential equipment in District Hospitals as discussed in Chapter 4 of the report.

1.12 Audit objectives

The Performance Audit was conducted to assess:

- the availability of human resource at all levels in the healthcare sector;
- the adequacy and quality of health care infrastructure in the State and its management;
- the availability of quality drugs, medicines, equipment and other consumables to the patients;
- the adequacy of planning and funds for the healthcare sector in the State;
- the funding and expenditure of central sector and centrally sponsored health sector schemes;
- the adequacy and effectiveness of the regulatory mechanism for ensuring quality healthcare services in the State; and
- improvement in the health and well-being of people as per SDG 3 due to State's spending on health sector.

1.13 Audit Criteria

The Audit criteria was derived from the following sources:

- National Health Policy, 2017;
- Sustainable Development Goals;
- Indian Public Health Standards, 2012 (IPHS);
- Drugs and Cosmetic Act, 1940 and Rules, 1945;
- The Pharmacy Act, 1948;
- Maharashtra Medical Council Act, 1965 and Rules, 1967;
- Maharashtra Fire Prevention and Life Safety Measures Act, 2006;
- Bio-Medical Waste Management Rules, 2016;
- Atomic Energy (Radiation Protection) Rules, 2004;
- National Medical Commission Act, 2019 and Minimum Requirements for Annual M.B.B.S. Admissions Regulations, 2020;
- National Disaster Management Guidelines for Hospital Safety, 2016;
- NHM Assessor’s Guidebook;
- The Clinical Establishments (Registration and Regulation) Act, 2010;
- Maharashtra Nursing Homes Registration Act;
- Hospital Administration Manual, Government of Maharashtra, 1976;
- Mumbai Municipal Corporation Act, 1888 and the Maharashtra Municipal Corporations Act, 1949;
- Maharashtra Budget Manual and Maharashtra Treasury Rules, 1968; and
- Central and State Government instructions/resolutions/guidelines issued from time to time.

1.14 Audit Scope and Methodology

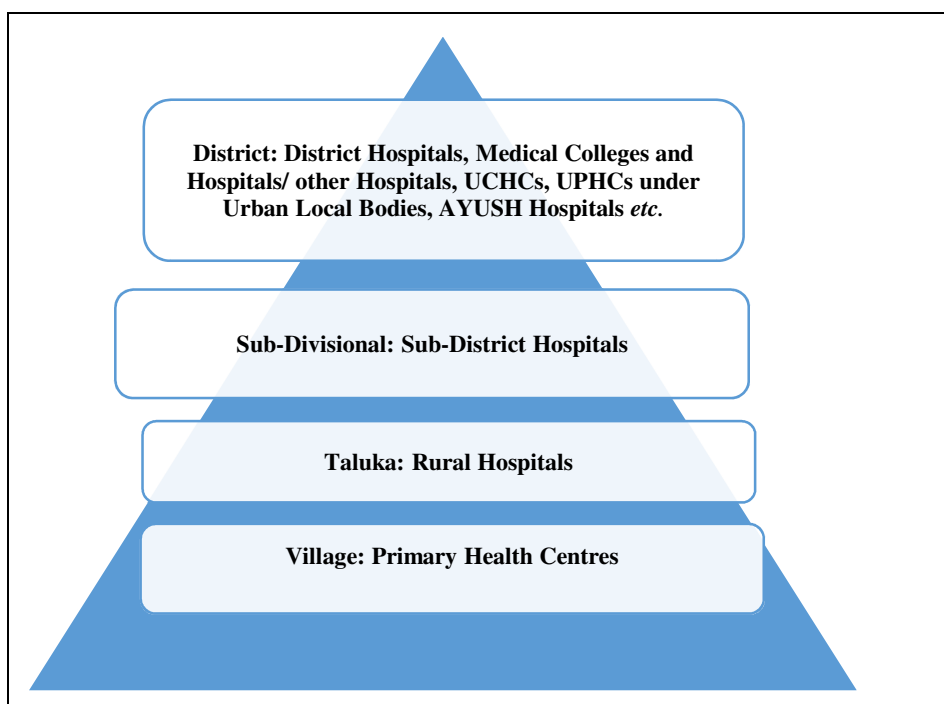
The Performance Audit on “Public Health Infrastructure and Management of Health Services in Maharashtra” was conducted from September 2021 to June 2022 covering the period 2016-17 to 2021-22 through test-check of records at PHD and MEDD. Records in the offices as shown in **Table 1.8**, were also test-checked in audit.

Table 1.8: Names of the test-checked offices

Sr. No.	Name of the office
1	Commissioner, Health Services, Mumbai
2	Commissioner, Medical Education and Research, Mumbai
3	Commissioner, Food and Drugs Administration, Mumbai
4	Civil Surgeon and District Health Officer, Zilla Parishad of selected districts
5	Haffkine Bio-Pharmaceutical Corporation Limited, Mumbai
6	Unit offices of selected Municipal Corporations

Nine districts¹¹ (25 per cent) out of 36 districts in the State were selected. Out of these nine districts, seven districts¹² were selected based on a stratified random sampling method. Mumbai City and Mumbai Suburban districts were selected from Thane Circle being the districts with maximum expenditure on health care during 2016-17 to 2021-22. HCIs at various levels covered within the selected districts are shown in **Chart 1.6**.

Chart 1.6: Levels at which Health Care Institutions were covered



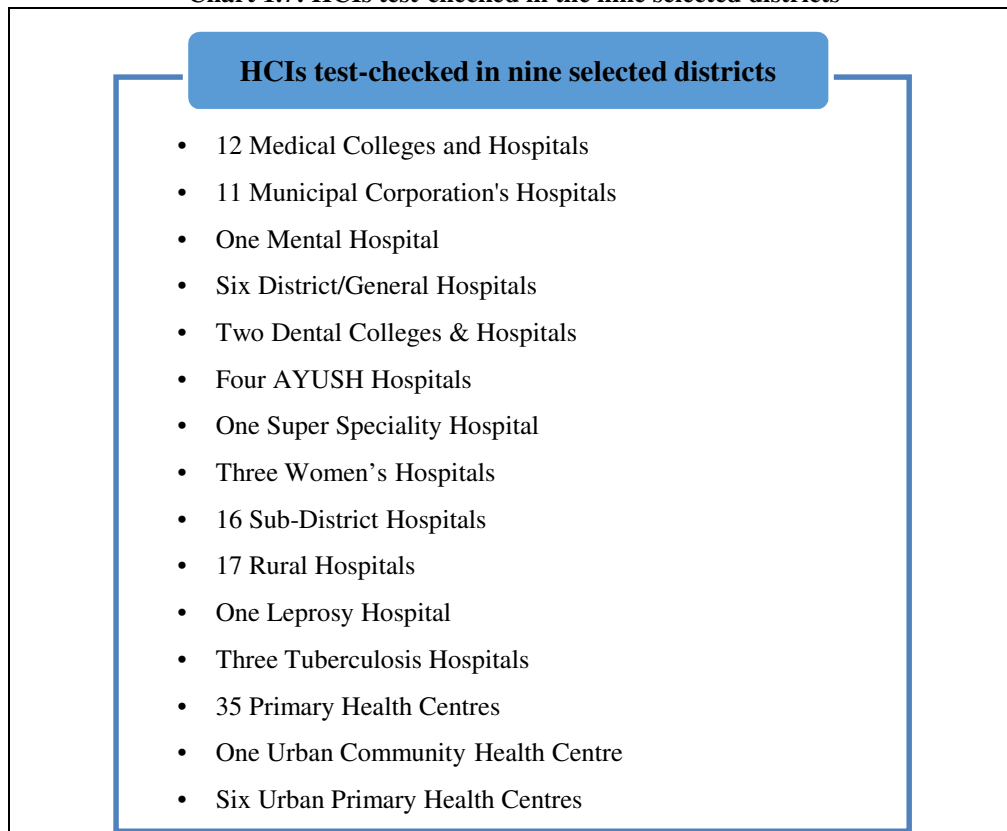
Source: Chart prepared by Audit based on the hierarchy of HCIs in the State

The different categories of HCIs test-checked are shown in **Chart 1.7**.

¹¹ Amravati, Chhatrapati Sambhajinagar (Previously known as Aurangabad), Chandrapur, Jalgaon, Kolhapur, Mumbai city, Mumbai suburban, Nanded and Pune.

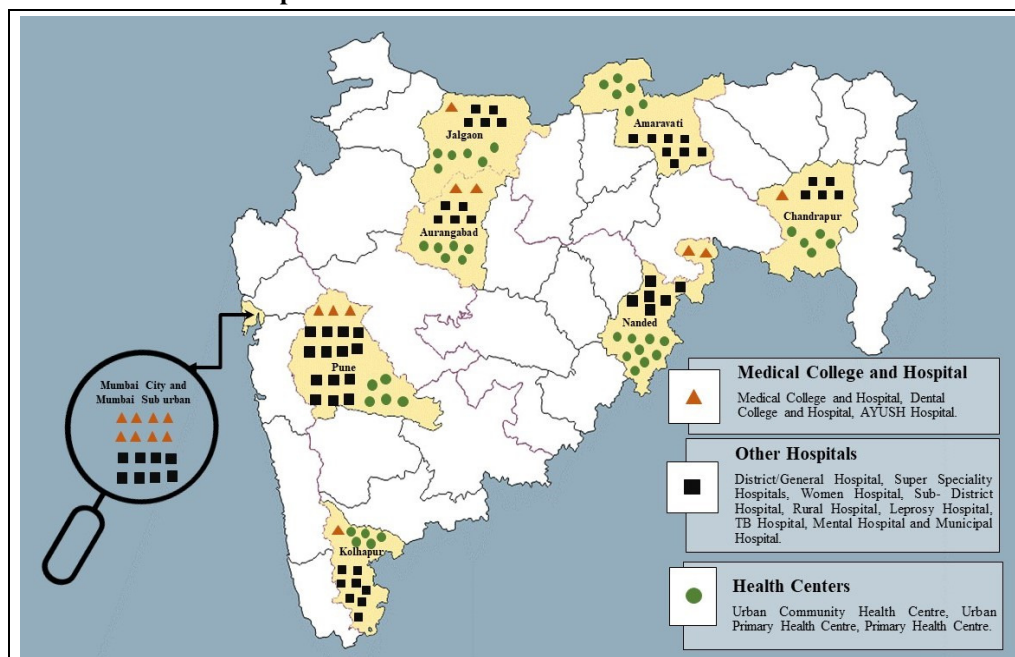
¹² One district each from the seven circles classified by Public Health Department viz., Akola, Chhatrapati Sambhajinagar, Kolhapur, Latur, Nagpur, Nashik and Pune.

Chart 1.7: HCIs test-checked in the nine selected districts



The district-wise list of 119 HCIs test-checked and the methodology adopted for the selection of these HCIs in the selected districts is shown in **Appendix 1.2** and **Appendix 1.3** respectively. The districts and HCIs covered in the audit are shown in **Map 1.1**.

Map 1.1: Districts and HCIs covered in the audit



The audit methodology involved document review, joint physical verification with HCI staff, beneficiary survey and collection of photographic evidence. A survey of 1,973 patients (Inpatient: 690; Outpatient: 1,283) in 84 test-checked

HCI (excluding 35 PHCs) was done to assess the effectiveness of health care services. A survey questionnaire was also issued and collected from 248 doctors in the test-checked HCIs (excluding PHCs). Joint physical verification was also conducted to ascertain the availability and quality of facilities provided in these 84 test-checked HCIs. To check the enforcement of the Maharashtra Nursing Homes Registration Act, as regards registration of hospitals, records of 10 private hospitals in each selected district were checked in the offices of the enforcement authorities viz., District Health Officer, Municipal Corporations and Civil Surgeons.

To ascertain the availability of infrastructure, services and manpower throughout the State, Audit collected further information from HCIs under PHD and MEDD as of May 2023. The information received was analysed and has been incorporated suitably in the Report.

An Entry Conference was held in September 2021 with the Director, Health Services, Mumbai, Director, Medical Education and Research, Mumbai and with the Additional Chief Secretary, PHD and Principal Secretary, MEDD in May 2022, wherein audit objectives, audit criteria, audit scope and methodology were discussed. An Exit Conference was held in January 2023, with the Principal Secretary, PHD, Secretary, MEDD and representatives from UDD wherein the audit findings were discussed and responses have been incorporated suitably in the Report. Replies received (January 2023) from MEDD and UDD have also been appropriately incorporated in the Report. Reply from PHD was awaited (April 2024).

The draft report which was revised was forwarded to Government in August 2023 and February 2024; their reply was awaited (April 2024).

1.15 Structure of Report

The Report structure is detailed below:

Chapter 1	Introduction
Chapter 2	Human Resources
Chapter 3	Healthcare Services
Chapter 4	Availability of Drugs, Medicines, Equipment and Other Consumables
Chapter 5	Healthcare Infrastructure
Chapter 6	Financial Management
Chapter 7	Implementation of Centrally Sponsored Schemes
Chapter 8	Adequacy and Effectiveness of the Regulatory Mechanisms
Chapter 9	Sustainable Development Goal-3

1.16 Acknowledgement

Audit acknowledges the co-operation and assistance extended by the Public Health Department, Medical Education and Drugs Department, Urban Development Department and all the test-checked HCIs in providing records, information and clarifications from time to time for the smooth conduct of audit.

