Primary Health Centre Infrastructure in India: Analysis of HMIS Infrastructure Data

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List of Acronyms

ANM	Auxiliary Nurse Midwife
AYUSH	Ayurvedic, Unani, Siddha, Homeopathy
BCC	Behaviour Change Communication
BEmOC	Basic Emergency Obstetric Care
BMO	Block Medical Officer
BPM	Block Programmer Manager
BTCT	Bleeding Time Clotting Time
CEmOC	Comprehensive Emergency Obstetric Care
CHC	Community Health Centre
DEO	Data Entry Operator
DH	District Hospital
DPM	District Programmer Manager
EmOC	Emergency Obstetric Care
FP	Family Planning
GOI	Government of India
HIV	Human Immuno Deficiency Virus
HMIS	Health Management Information System
HWC	Health and Wellness Centre
IEC	Information, Education, Communication
IPD	Indoor Patient department
IPHS	Indian Public Health Standards
JSSK	Janani Shishu Surksha Karyakram
LT	Lab Technician
MCH	Maternal and Child Health
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
MTP	Medical Termination of Pregnancy
NHM	National Health Mission
NRC	Nutrition Rehabilitation Centre
NRHM	National Rural Health Mission
OHT	Over Head Tank
OPD	Out-patient Department
PHC	Primary Health Centre
PIP	Programme Implementation Plan
PMU	Programme Management Unit
RHS	Rural Health Statistics
RTI	Reproductive Tract Infection
SDH	Sub-District Hospital
SHC	Sub Health Centre
SN	Staff Nurse
STI	Sexually Transmitted Infection
TT	Tubectomy
UPHC	Urban Primary Health Centre
UT	Union Territory
VT	Vasectomy

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Primary Health Centre Infrastructure in India: Analysis of HMIS Infrastructure Data

1. Introduction

Quality of HMIS data is of utmost importance. It provides required basis for planning, monitoring and mid-course intervention of different health programmes. Apart from service statistics, details of infrastructure in public health facilities are valuable source available in HMIS. The goal of establishing HWCs at PHCs, UPHCs and SHCs require information about existing infrastructure at these public health facilities.

At present a total of 30401 PHCs in all the states and union territories are mapped in HMIS. The information related to infrastructure MIS of PHCs is not gainfully utilized. It is necessary to study the information and data provided about infrastructure at PHCs.

During PIP monitoring it was observed that most of the medical officers are not aware about annual infrastructure MIS data being reported for PHCs and it is reported from the district. There is lack of training among services providers about reporting of annual infrastructure data in HMIS. The new data definition guidelines issued for reporting of annual infrastructure need to be understood for correct reporting of data. It is thus imperative to study HMIS infrastructure data of PHCs.

It is universally accepted that rural areas have excessive demand for health care services and NRHM has paved the way to cater to rural area's health needs by creating required health infrastructure in terms of manpower, services and linkage with higher health facility. Studies on public health institutions in India, in various five year plan period, show that growth of public health institutions has been a demand driven initiative under the ever changing health scenario in the India. Given the state level disparity of health indicators and health being a state subject, every state has evolved its own system of health care service delivery. Typically Primary Health Centre (PHC) is the first port of call for any medical or health services at the grassroots, in both rural and urban areas. Provisioning of primary health care services for urban poor and slums UPHCs are being established rapidly. A PHC normally caters to a population of 30 thousand.

Limited availability of regular data regarding available infrastructure, human resources and its linkages with existing health infrastructure has hampered proper planning

for creating adequate, accessible and required health infrastructure in the rural areas. In this scenario it is necessary to study the growth and distribution of PHC infrastructure in different states and assessment of facilities and amenities available at PHCs in terms of available infrastructure, manpower and functional status of PHCs by analysing existing data of Health Management Information System (HMIS).

2. Objectives

1) To study growth and distribution of PHCs
2) To analyse coverage, infrastructure facilities and amenities in PHCs
3) To ascertain the human resource availability in PHCs
4) To study reporting of availability of services in annual infrastructure MIS at PHCs

3. Data and Methods

Data for the present study has been drawn from facility wise HMIS Infrastructure and MIS data. HMIS web portal https://nrhm-mis.nic.in provides data on infrastructure. HMIS Infrastructure data is reported at the beginning of the financial year i.e. as on 1st April. HMIS infrastructure data provides details of each PHC in rural and urban area.

HMIS infrastructure data provides information on ownership of health facility, coverage in term of population and geographic area, availability of basic amenities including residential facilities, human resource and services and their functional status etc.

The annual HMIS infrastructure details are reported in a prescribed format designed for PHC. It is based on the IPHS guidelines for PHCs. Latest IPHS guidelines were revised in the year 2012. Infrastructure data reporting under HMIS has started since 2013-14 for all the existing PHCs on regular and continuous basis.

To accomplish the objectives of the study, primarily HMIS facility level annual infrastructure data were used. Most updated and corrected data was downloaded from HMIS portal https://nrhm-mis.nic.in as on 30th July, 2020 for three years 2017-18, 2018-19 and 2019-20. The data was then compiled for analysis using MS Excel programming and then transferred to SPSS data files for cross sectional analysis.

For the first objective all India district-wise data have been analysed. This includes number of PHCs in each district and type of PHCs as reported in HMIS facility master for 2019-20. For rest of the objectives data from individual PHCs in Madhya Pradesh has been

analysed. For analysing the status of PHCs indicators related to infrastructure facilities and provision of health care services were selected for the study. Proportion, ratios have been computed and graphical methods have been used to analyse the comparative status of availability of PHCs in the states of India and health facility infrastructure in each of the 51 districts of Madhya Pradesh

4. Growth of Primary Health Centres in India

As per Census 2011 nearly three-fourths of population is rural. Proportion of rural population across states varies between highest of Himachal Pradesh and Bihar (89%) to lowest in Delhi and Chandigarh (3%). Catering the health care need of rural and urban population is an uphill task where population density varies across states and in some the states it is very low while in urban areas it is too dense combined with slum areas. Villages are small in population size and sparsely located. Out of total 598608 villages in India, 196883 villages have population size of less the 500 persons. Importance of primary health centres being the first referral point for treatment and a linkage for secondary and tertiary care health facilities can be understood by the fact that within a span of a decade, 2656 new PHCs were added in the public health system (Table 1).

Table 1: Growth of Primary Health Centres in India

States and UTs	Rural Population, 2011	Year				
		2011-12	2016-17	2017-18	2018-19	2019-20
Andhra Pradesh	56361702	2003*	1484	1484	1503	1504
Arunachal Pradesh	1066358	110	121	121	124	124
Assam	26807034	1060	1007	1007	1010	1011
Bihar	92341436	1893	2013	2013	2026	2027
Chhattisgarh	19607961	784	812	812	816	816
Delhi	419042	553	537	537	544	545
Goa	551731	26	31	31	29	59
Gujarat	34694609	1520	1807	1807	1794	1794
Haryana	16509359	566	474	474	485	485
Himachal Pradesh	6176050	471	516	516	582	583
Jammu & Kashmir	9108060	676	702	702	702	702
Jharkhand	25055073	318	343	343	333	335
Karnataka	37469335	2367	2542	2542	2538	2534
Kerala	17471135	922	935	935	936	936
Madhya Pradesh	52557404	1270	1313	1313	1356	1356
Maharashtra	61556074	2515	2637	2637	2666	2676
Manipur	1736236	81	90	90	93	93
Meghalaya	2371439	118	138	138	143	143
Mizoram	525435	65	65	65	64	65

States and UTs	Rural Population, 2011	Year				
		2011-12	2016-17	2017-18	2018-19	2019-20
Nagaland	1407536	141	134	134	137	137
Odisha	34970562	1305	1375	1375	1377	1377
Punjab	17344192	522	521	521	522	525
Rajasthan	51500352	2430	2459	2459	2477	2477
Sikkim	456999	25	25	25	25	25
Tamil Nadu	37229590	1740	1890	1890	1883	1884
Telangana	***	***	775	775	823	823
Tripura	2712464	94	113	113	113	113
Uttar Pradesh	155317278	2869	3403	3403	3474	3472
Uttarakhand	7036954	245	275	275	262	269
West Bengal	62183113	932	1378	1378	1379	1379
Andaman & Nicobar Island	237093	27	27	27	27	27
Chandigarh	28991	39	46	46	48	48
Dadra & Nagar Haveli	183114	12	9	9	9	9
Daman & Diu	60396	3	4	4	4	4
Lakshadweep	14141	3	4	4	4	4
Puducherry	395200	40	40	40	40	40
INDIA	**833463448**	**27745**	**30045**	**30045**	**30348**	**30401**

Source: *Infrastructure Data Reporting Status, HMIS, Ministry of Health & Family Welfare*
** Undivided Andhra Pradesh*

Almost all the states except Assam and Haryana have increased number of PHCs. Eight states (Uttar Pradesh, West Bengal, Gujarat, Karnataka, Maharashtra, Tamil Nadu, Bihar and Himachal Pradesh) together have added 2042 new PHCs. Total rural population in these eight states was 48.69 Crores as per census 2011. Uttar Pradesh has added highest number of new PHCs (603) followed by West Bengal (447) and Gujarat (274). It is seen that during 2016-17 to 2019-20 in all 356 new PHCs were added of which 294 PHCs were added in six states - Uttar Pradesh (69), Himachal Pradesh (67), Telangana (48), Madhya Pradesh (43), Maharashtra (39) and Goa (28). A sharp decline in number of PHCs was observed in Haryana with reduction of 81 PHCs followed by Assam where number was declined by 49 as compared to number of PHCs in 2011-12. It was noted that in 2011-12, many Mini PHCs were also mapped as full-fledged PHCs in both the states and after rectification the number of PHCs was reduced.

A cross sectional analysis of growth in number of PHCs shows that addition of new PHCs also varies across districts within a state. Table 2 shows the individual districts where number of PHCs have changed during 2011-12 to 2019-20. It was found that during this

period 508 PHCs were reduced in 113 districts across 23 states. In 125 districts there was no change in number of PHCs during this period.

Table 2: State-wise change in number of PHCs in districts during 2011-12 to 2019-20, HMIS

States	Districts showing change in number of PHCs				
	No Change	**Increase Upto 5**	**Increase 6-10**	**Increase 10+**	**Decreased**
Andhra Pradesh		Anantapur	Cuddapah	Guntur, Krishna, Vishakapatnam, West Godavari, Chittoor, East Godavari, Kurnool, Prakasam, Nellore, Srikakulam	Vizianagaram
Arunachal Pradesh	Dibang Valley, East Kameng, Namsai. Upper Siang	Kra Daadi, Anjaw, Tirap, Longding, Tawang ,Upper Subansiri	Papum Pare		Changlang, Lower Dibang Valley, West Kameng, Lohit, Lower Subansiri, West Siang, Kurung Kumey, East Siang
Assam	Dhemaji	Karimganj	Karimganj	Nalbari, North Cachar Hills, Hailakandi, Karbi Anglong, Lakhimpur	Dhubri, Bongaigaon, Cachar, Kamrup M, Barpeta, Darrang, Tinsukia, Baksa, Marigaon, Golaghat, Kokrajhar, Kamrup R, Sonitpur, Goalpara, Jorhat, Nagaon
Bihar	Arwal, Gopalganj, Jamui, Lakhisarai, Samastipur, Sheikhpura, Sheohar, Sitamarhi	Begusarai, Rohtas, Siwan, Bhojpur, Araria, Saran, Supaul, Vaishali, Aurangabad, Jehanabad, Katihar, Kishanganj, Banka, Buxar, Kaimur Bhabua, Khagaria, Madhepura, Nawada, Saharsa	Gaya, Nalanda, East Champaran, Muzaffarpur, Purnia, Darbhanga, Munger	Patna, Bhagalpur	Madhubani, West Champaran

States	Districts showing change in number of PHCs				
	No Change	**Increase Upto 5**	**Increase 6-10**	**Increase 10+**	**Decreased**
Chhattisgarh	Gariyaband, Jashpur, Narayanpur, Raigarh, Surajpur	Balrampur, Koriya, Mungeli, Balod, Kawardha, Baloda Bazar, Dhamtari, Kanker, Mahasamund, Bijapur, Bilaspur, Dantewada, Durg, Janjgir Champa, Kondagaon, Rajnandgaon, Surguja	Sukma		Bemetara, Korba, Bastar, Raipur
Delhi				Central, East, New Delhi, North, North East, North West, Shahdara, South, South East, South West, West	
Goa				North Goa, South Goa	
Gujarat	Panch Mahal, Porbandar	Aravalli, Navsari, Botad, Tapi, Gir Somnath, Junagadh, Narmada, Vadodara, Amreli, Bharuch, Gandhinagar, Mahesana, Mahisagar, The Dangs	Bhavnagar, Jamnagar, Valsad, Anand, Devbhumi Dwarka, Chhotaudepur, Kheda, Surat	Dahod, Banas Kantha, Kachchh, Rajkot, Patan, Surendranagar, Ahmedabad, Sabar Kantha, Morbi	
Haryana	Mewat	Ambala, Panipat, Fatehabad	Sirsa		Rohtak, Faridabad, Sonipat, Kaithal, Palwal, Jhajjar, Rewari, Yamunanagar, Jind, Karnal, Kurukshetra, Hisar, Mahendragarh, Bhiwani, Gurgaon, Panchkula
Himachal Pradesh		Bilaspur, Unam Chamba, Kinnaur, Lahul Spiti	Kangra, Sirmaur, Solan, Hamirpur, Kullu	Shimla, Mandi	

States	Districts showing change in number of PHCs				
	No Change	**Increase Upto 5**	**Increase 6-10**	**Increase 10+**	**Decreased**
Jammu & Kashmir	Anantnag, Doda, Ganderbal, Kargil, Kishtwar, Kulgam, Kupwara, Leh Ladakh, Poonch, Pulwama, Ramban, Reasi	Bandipora, Jammu, Shopian, Baramula, Udhampur	Rajauri, Badgam, Srinagar		Kathua, Samba
Jharkhand	Chatra, Pakaur Deoghar, Dumka, Kodarma, Latehar	Dhanbad, Purbi Singhbhum, Ranchi, Bokaro, Lohardaga, Ramgarh, Garhwa, Godda, Gumla, Hazaribagh, Palamu, Sahibganj			Giridih, Khunti, Pashchimi Singhbhum, Saraikela, Simdega, Jamtara
Karnataka	Koppal , Shimoga		Dakshina Kannada, Gulbarga, Kolar, Chikkaballapur, Chitradurga, Tumkur, Bagalkote, Belgaum, Davanagere, Ramanagar, Uttara Kannada, Bangalore Rural, Bidar, Bijapur, Gadag, Hassan, Haveri, Yadgir, Chamrajnagar, Chikmagalur, Kodagu, Udupi	Bangalore	Dharwad, Mysore, Mandya, Raichur, Bellari
Kerala	Ernakulam	Malappuram, Kannur, Kollam, Thrissur, Alappuzha, Kasaragod, Palakkad, Thiruvananthapuram, Wayanad			Idukki, Kottayam, Pathanamthitta, KOZHIKKODE

States	Districts showing change in number of PHCs				
	No Change	**Increase Upto 5**	**Increase 6-10**	**Increase 10+**	**Decreased**
Madhya Pradesh	Agar Malwa, Betul, Datia, Dindori, Harda, Hoshangabad, Rajgarh, Ratlam, Shahdol, Umaria	Gwalior, Sehore, Bhopal, Khargone, Mandla, Panna, Vidisha, Dewas, Jhabua, Anuppur, Balaghat, Chhatarpur, Damoh, Dhar, Jabalpur, Narsinghpur, Sagar, Sheopur, Sidhi, Tikamgarh, Alirajpur, Ashok Nagar, Burhanpur, Chhindwada, Guna, Katni, Khandwa, Neemuch, Seoni, Shajapur, Shivpuri, Ujjain	Bhind, Morena, Rewa, Satna		Barwani, Raisen, Singroli, Indore, Mandsaur
Maharashtra	Sangli, Sindhudurg, Thane	Amravati, Satara, Wardha, Yavatmal, Bid, Gadchiroli, Hingoli, Jalna, Latur, Nandurbar, Solapur, Bhandara, Chandrapur, Gondiya, Osmanabad, Ahmednagar, Akola, Aurangabad, Dhule, Ratnagiri, Washim	Nanded, Jalgaon, Nagpur, Raigarh, Buldana, Kolhapur, Parbhani	Brihan Mumbai, Palgahr, Nashik, Pune	
Manipur	Bishnupur, Senapati, Tamenglong, Ukhrul	Imphal West, Thoubal, Churachandpur, Imphal East, Chandel			
Meghalaya	East Jaintia Hills, Ri Bhoi	West Garo Hills, North Garo Hills, South West Garo Hills, South West Khasi Hills, West Jaintia Hills, South Garo Hills, West Khasi Hills		East Khasi Hills	West Garo Hills
Mizoram	Aizawl East, Aizawl West, Champhai, Kolasib, Lunglei, Saiha, Serchhip	Lawngtlai			Mamit
Nagaland	Kiphire, Kohima, Longleng, Phek, Wokha	Dimapur			Mokokchung, Mon, Peren, Tuensang, Zunheboto

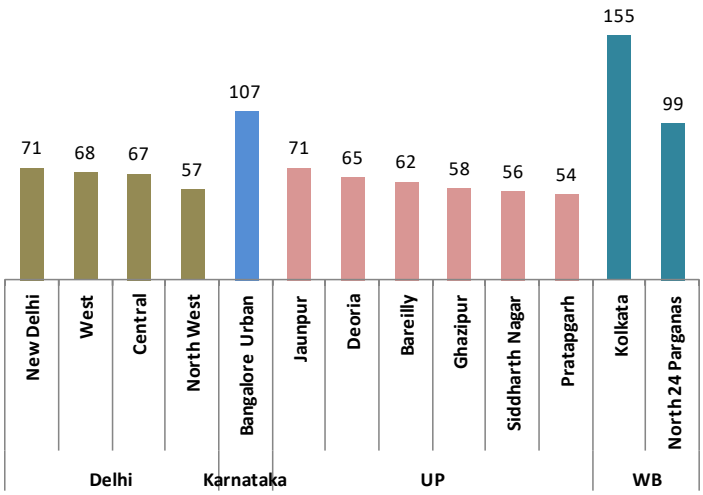
States	Districts showing change in number of PHCs				
	No Change	**Increase Upto 5**	**Increase 6-10**	**Increase 10+**	**Decreased**
Odisha	Anugul, Baudh, Deogarh, Kandhamal, Kendrapara, Nuapada, Sonapur	Baleshwar, Sambalpur, Balangir, Jharsuguda, Bargarh, Jajapur, Koraput, Dhenkanal, Mayurbhanj, Bhadrak, Gajapati, Kalahandi, Keonjhar, Nabarangapur, Nayagarh, Puri, Rayagada	Khordha, Sundargarh, Cuttack		Malkangiri, Jagatsinghpur
Punjab	Bathinda, Faridkot, Fatehgarh Sahib, Fazilka, Kapurthala, Mansa, Moga, Nawanshahr, Patiala, Rupnagar, Tarn Taran	Pathankot, Amritsar, Barnala, Gurdaspur, Jalandhar, Mohali SAS Nagar, Sangrur			Firozpur, Hoshiarpur, Ludhiana, Muktsar
Rajasthan	Bhilwara, Dausa, Jalor, Karauli	Churu, Sikar, Udaipur, Jaisalmer, Dungarpur, Alwar, Barmer, Kota, Dhaulpur, Pratapgarh, Banswara, Baran, Bharatpur, Bikaner, Chittaurgarh, Sirohi Hanumangarh, Jhalawar, Jhunjhunun, Rajsamand,	Ajmer, Nagaur, Jaipur		Bundi, Ganganagar, Pali, Tonk, Sawai Madhopur, Jodhpur
Sikkim	East, North, South, West				
Tamil Nadu	Ariyalur. Kalur, Nagapattinam	Thiruvallur, Thiruvarur, Tirunelveli, Dindigul, Toothukudi, Nilgiris, Dharmapuri, Theni, Viluppuram, Erode, Sivaganga, Krishnagiri, Ramanathapuram, Tiruvanamalai, Kanniyakumari, Kancheepuram, Perambalur, Thanjavur	Pudukkottai, Coimbatore, Salem, Tiruchirappalli, Vellore, Namakkal	Chennai, Tirupur, Madurai	Cuddalore, Virudhunagar
Telangana		Adilabad, Nizamabad		Ranga Reddy, Warangal, Medak	Hyderabad, Nalgonda, Khammam,, Karimnagar, Mehabubnagar

States	Districts showing change in number of PHCs				
	No Change	**Increase Upto 5**	**Increase 6-10**	**Increase 10+**	**Decreased**
Tripura		Unakoti, Sipahijala, Gomati, Khowai, Dhalai, South Tripura	West Tripura		North Tripura
Uttar Pradesh	Agra, Aligarh, Ambedkar Nagar, Auraiya, Basti, C S M Nagar, Etah, Farrukhabad, Hamirpur, Hathras, Kanpur Dehat, Kashi Ram Nagar, Lalitpur, Mahoba, Mainpuri, Rae Bareli, Sant Kabir Nagar, Shrawasti, Sultanpur	Saharanpur, Banda, Bulandshahar, Kannauj, Lucknow, Firozabad, Mathura, Unnav, Barabanki, Hapur, Hardoi, Jhansi, Maunathbhanjan, Rampur, Shamli, Sitapur, Sonbhadra, Bagpat, Budaun, Chandauli, Etawah, Faizabad, Lakhimpur Kheri, Mirzapur, Muzaffarnagar	Jyotiba Phule Nagar, Bijnor	Jaunpur, Gonda, Jalaun, Deoria, Bareilly, Ghazipur, Siddharth Nagar, Pratapgarh, Kaushambi, Moradabad, Sambhal, Chitrakoot, Ghaziabad, Pilibhit, Azamgarh, Gautam Buddha Nagar, Kanpur Nagar	Allahabad, Ballia, Fatehpur, Gorakhpur, Varanasi, Balrampur, Kushinagar, Maharajganj, Sant Ravidas Nagar, Bahraich, Shahjahanpur, Meerut
Uttarakhand	Chamoli, Champawat, Pithoragarh, Udham Singh Nagar, Uttarkashi	Nainital, Dehradun, Rudraprayag	Almora	Hardwar	Bageshwar, Garhwal, Tihri Garhwal
West Bengal		Murshidabad, Uttar Dinajpur, Bankura, Dakshin Dinajpur, Malda, Birbhum, Koch Bihar, Puruliya,	Medinipur East, Darjeeling	Kolkata, North 24 Parganas, Haora, Hooghly, South 24 Parganas, Nadia	Jalpaiguri, Medinipur West, Bardhaman
Andaman & Nicobar Island		Nicobar	North & Middle Andaman	South Andaman	
Chandigarh				Chandigarh	
Dadra & Nagar Haveli				Dadra and Nagar Haveli	
Daman & Diu		Daman, Diu			
Lakshadweep		Lakshadweep			
Puducherry	Yenam	Mahe		Pondicherry, Karaikal	

Source: Compiled from HMIS Infrastructure MIS data for 2011-12 and 2019-20; https://nrhm-mis.nic.in

Delhi and Goa were the two states that have increased number of PHCs in all the districts. Figure 1 shows that more than 50 PHCs have been added in each of the 13 districts in four states namely – Delhi (4 districts), Karnataka (1 district), Uttar Pradesh (6 districts) and West Bengal (2 district). In all 990 PHCs have been added in these 13 districts. In other words, 36.4 percent of all the newly added PHCs across districts have come from only 13 districts.

Figure 1: Districts that added more than 50 PHCs during 2011-12 to 2019-20, HMIS

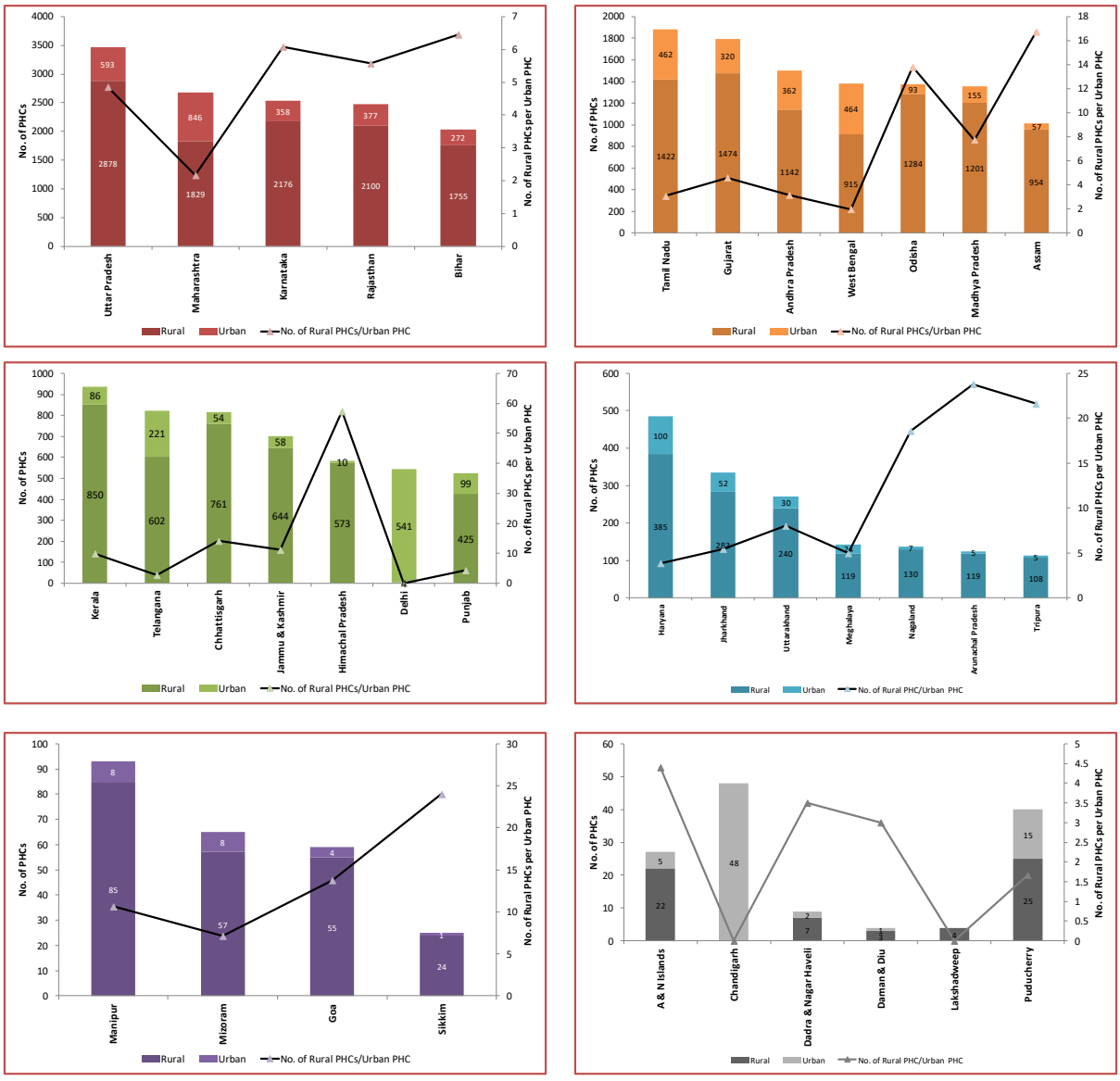


5. Distribution of Primary Health Centres

For analyzing the distribution of PHCs, HMIS facility level data has been used. The HMIS facility master data show that out of 30398 PHC mapped in HMIS facility master 24655 were in rural areas and 5743 were urban PHCs. This shows that about one-fifth of all the PHCs are in urban areas.

The state-wise distribution of PHCs in rural and urban areas is depicted in Figure 2. In five states having more than 2000 PHCs Maharashtra has highest number of urban PHCs. It has nearly 2 rural PHCs per urban PHC. Bihar has only 10 percent of all the PHCs as urban PHC and for every urban PHC there are more than 6 rural PHCs.

Figure 2: Rural-Urban Distribution of PHCs by States, HMIS, 2019-20



Considering the rural population in 2011 census, on average each PHC caters to rural population of 33805 persons. Sufficient rural PHCs are available in 16 states, where on average PHC covers 25000 or less population.

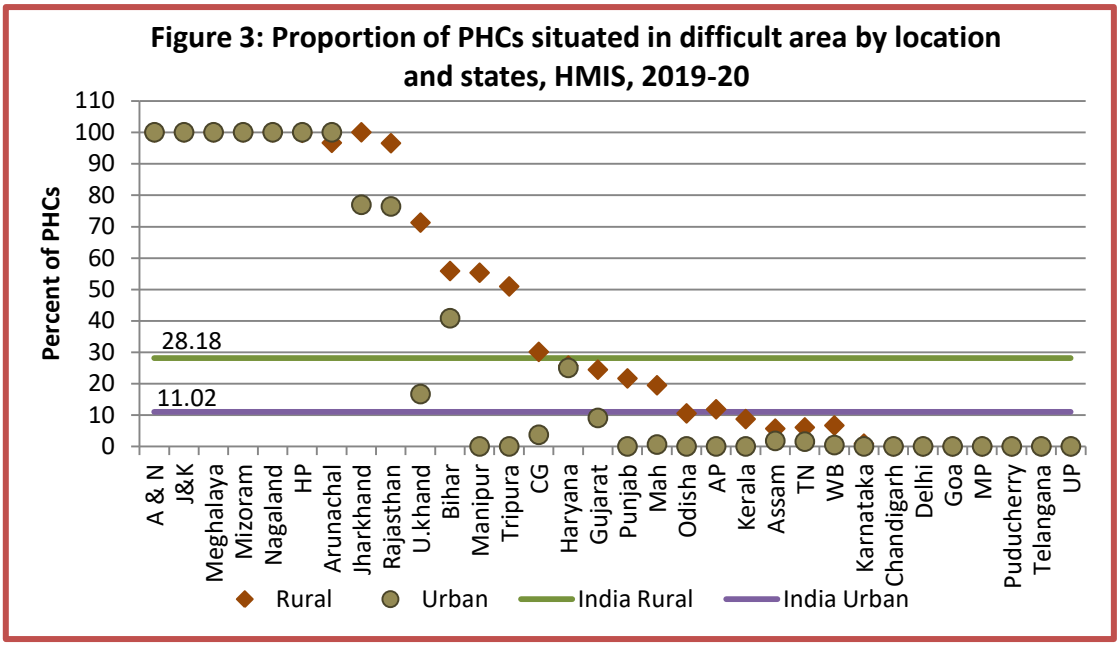
Tamil Nadu and Gujarat have equal number of Rural PHCs. Similarly, Tamil Nadu has equal number of urban PHCs as that of West Bengal. Tamil Nadu and Andhra Pradesh have nearly three rural PHCs for every urban PHC. Kerala and Punjab have almost equal rural population of 1.73 Crore, however, Kerala has twice the number of PHCs than that of Punjab in rural areas. In the states where number of PHCs are between 500 and 1000, Chhattisgarh

has 14 rural PHCs for each urban PHC, followed by J&K (11) and Kerala (10). Among north-eastern states Nagaland, Arunachal Pradesh and Tripura have majority PHCs in rural areas, except Meghalaya. These three states have only 5-7 urban PHCs whereas Meghalaya has 24 urban PHCs. It is found that states having less than 100 PHCs – Manipur (93), Mizoram (65), Goa (59) and Sikkim (25) have majority rural PHCs. Among UTs, Chandigarh and Puducherry have 48 and 40 PHCs respectively.

Information about urban PHCs serving urban slums is not provided for more than half (54.2 percent) of the urban PHCs. There are 2418 (42 percent) urban PHC that are reported as serving urban slums. In fact, under NUHM, location of urban PHCs is mandatorily kept in or around urban slums. Out of 5743 urban PHCs, only 3.7 percent of PHCs reported as not serving urban slums.

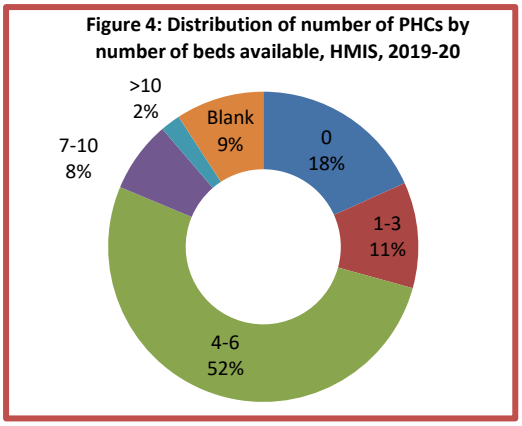
At national level one-fourth of all the PHCs are in difficult areas and rest in plain areas. There were 28 percent rural PHCs and 11 percent urban PHCs were in difficult areas. At national level, 28.18 percent of all rural PHCs and 11.02 percent of all urban PHCs are in difficult areas. Distribution of PHCs in difficult and plain area reveals that in north-eastern states and Jammu and Kashmir all the rural as well as urban PHCs were reported as situated in difficult areas (Figure 3). Classification of geographical areas as difficult or plain varies in states. It is generally decided by the state policy. It is noted that Chhattisgarh, Haryana, Tamil Nadu, Rajasthan, Jammu and Kashmir and north-eastern states have their criteria for classification of areas for implementation of incentives scheme for health care providers.

In Jharkhand and Rajasthan more than 70 percent Urban PHCs and almost all the rural PHCs were in difficult areas. On average 24 percent of rural PHCs were in difficult areas in states like Chhattisgarh, Haryana, Gujarat, Punjab and Maharashtra. In Kerala, Assam, Tamil Nadu and West Bengal more than 90 percent of rural PHCs were in plain areas.



Such a classification provides basis for incentivisation of services, including proposing appropriate health infrastructure for PHCs in difficult areas and also in plain areas. It is noted that in all 43 rural PHCs and 57 urban PHCs had not been classified for their area type as difficult or plain. Among these PHCs, Rajasthan alone has 37 rural and 55 urban PHCs for which area type was not reported.

Bed count in each PHC is provided in the facility master. This is an indicator for adequacy of infrastructure in the PHCs. A PHC is supposed to have 4-6 beds. As per IPHS norms revised in 2012, each PHC should have sufficient beds to maintain a bed occupancy are of 60% and above. There is no pre-defined norm for number of beds in PHCs functioning as 24x7 MCH centre. Broadly PHCs are categorized as Type-A PHCs - PHCs having less than 20 deliveries per month and PHCs having more than 20 deliveries as Type B.



Out of total 30398 active, physical and public PHCs, about two-thirds have prescribed number of beds i.e. 4 or more beds. It is noted that for nearly one-third of PHCs, they either have no beds at all or bed strength is not reported in HMIS facility master (Figure 4). This indicates lack of data reporting monitoring mechanism at the district and state level. In all

1.3 lakh beds are available in 27604 PHCs in India. A state level variation in the reported number of beds and number of PHCs reporting bed strength indicate that in Delhi none of the PHCs have reported number of beds, whereas Maharashtra has highest number of beds (14986) available at PHCs among all the states.

Table 3: State-wise number of beds available and number of PHCs having beds, HMIS 2019-20

States / UTs	No. of Beds in the PHCs										
	Blank*	0 beds	No. of PHC#	1-3 beds	No. of PHC#	4-6 beds	No. of PHCs#	> 6 beds	No. of PHC#	Total Beds	No. of PHC##
Andhra Pradesh	194	0	126	46	23	6848	1142	317	19	7211	1310
Arunachal Pradesh	46	0	26	32	17	103	19	164	16	299	78
Assam	22	0	157	791	419	1577	312	1195	101	3563	989
Bihar	1222	0	147	365	161	2556	434	1197	63	4118	805
Chhattisgarh	9	0	8	461	195	2574	467	1371	136	4406	806
Delhi	13	0	532	--	--	--	--	--	--	0	532
Goa	30	0	16	--	--	--	--	191	13	191	29
Gujarat	59	0	285	11	7	8370	1401	361	42	8742	1735
Haryana	85	0	5	131	75	969	181	1275	139	2375	400
Himachal Pradesh	168	0	253	23	11	843	144	64	7	930	415
Jammu & Kashmir	69	0	11	465	238	1017	210	2039	174	3521	633
Jharkhand	15	0	18	396	187	619	113	17	2	1032	320
Karnataka	2	0	138	195	100	12987	2172	1704	122	14886	2532
Kerala	275	0	408	72	34	143	29	4160	190	4375	661
Madhya Pradesh	138	0	18	4	2	5833	973	2840	225	8677	1218
Maharashtra	13	0	744	8	5	8100	1356	6878	557	14986	2662
Manipur	--	0	1	80	35	237	45	118	12	435	93
Meghalaya	27	0	8	5	2	44	8	978	98	1027	116
Mizoram	3	--	--	--	--	--	--	625	62	625	62
Nagaland	2	0	19	80	39	312	57	202	20	594	135
Odisha	58	0	1180	53	48	340	59	406	32	799	1319
Punjab	5	0	33	375	205	926	213	936	68	2237	519
Rajasthan	83	0	295	366	251	10774	1805	504	43	11644	2394
Sikkim	--	0	1	--	--	--	--	234	24	234	25
Tamil Nadu	13	0	127	1921	903	3323	641	3143	200	8387	1871
Telangana	144	0	60	117	63	2833	500	826	56	3776	679
Tripura	3	0	4	--	--	150	25	810	81	960	110
Uttar Pradesh	58	0	4	550	278	12982	3107	271	24	13803	3413
Uttarakhand	4	0	13	35	26	856	212	146	15	1037	266
West Bengal	14	0	878	32	16	868	160	3125	311	4025	1365
A & N Islands	7	--	--	--	--	6	1	330	19	336	20
Chandigarh	9	0	37	--	--	--	--	22	2	22	39
Dadra & Nagar Haveli	2	--	--	--	--	11	2	81	5	92	7
Daman & Diu	2	--	--	--	--	6	1	30	1	36	2
Lakshadweep	--	--	--	--	--			40	4	40	4
Puducherry	--	--	--	31	14	83	15	132	11	246	40
Total	**2794**	**0**	**5552**	**6645**	**3354**	**86290**	**15804**	**36732**	**2894**	**129667**	**27604**

** No. of PHCs not reported number of beds, # No. of PHCs reporting number of beds (Compiled from HMIS facility master, 2019-20)*

In Mizoram and Sikkim all the PHCs have more than 6 beds. In Kerala, 190 of 661 PHCs and in Meghalaya, 98 of 116 PHCs have accumulated 95 percent of all PHCs beds. In both these states all such PHCs have more than 6 beds. In Odisha 90 percent of PHCs have no beds. More than two-thirds of PHCs have no beds in Himachal Pradesh (61 percent), Kerala (62 percent) and West Bengal (66 percent).

In Rajasthan, Uttarakhand, Madhya Pradesh, Gujarat, Karnatak, Andhra Pradesh and Uttar Pradesh more than three-fourth of PHCs have 4 to 6 beds. In Manipur, Maharashtra, Bihar and Chhattisgarh about half of PHCs have 4 to 6 beds (Figure 5). Majority of the PHCs having 4 to 6 beds are situated in rural areas. In rural PHCs there are total 118641 beds and in urban PHCs 11026 beds were available.

Figure 5: Proportion of PHCs having 4 to 6 beds HMIS, 2019-20

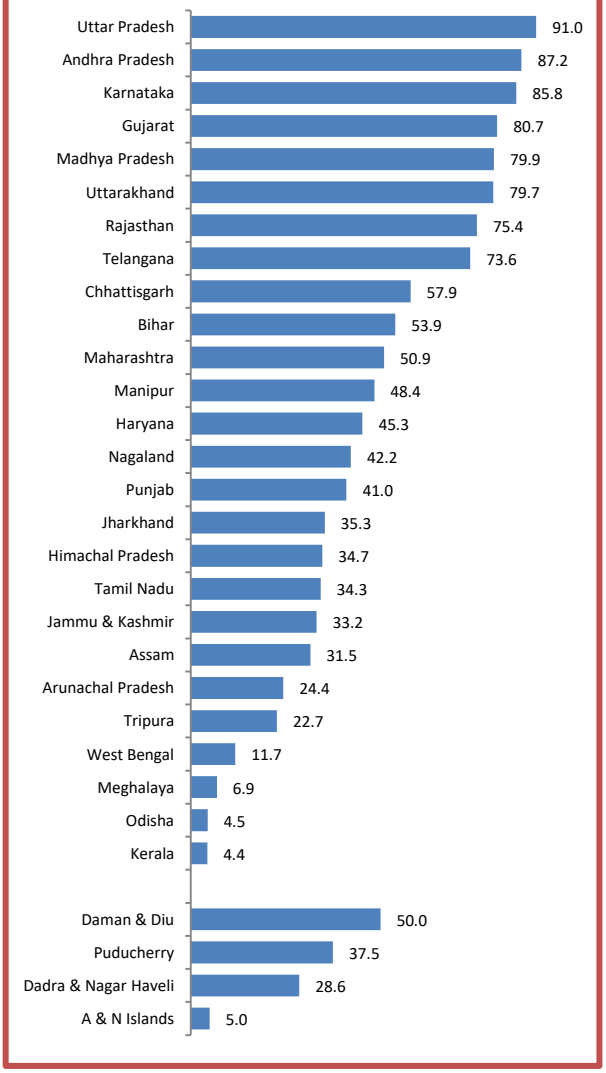
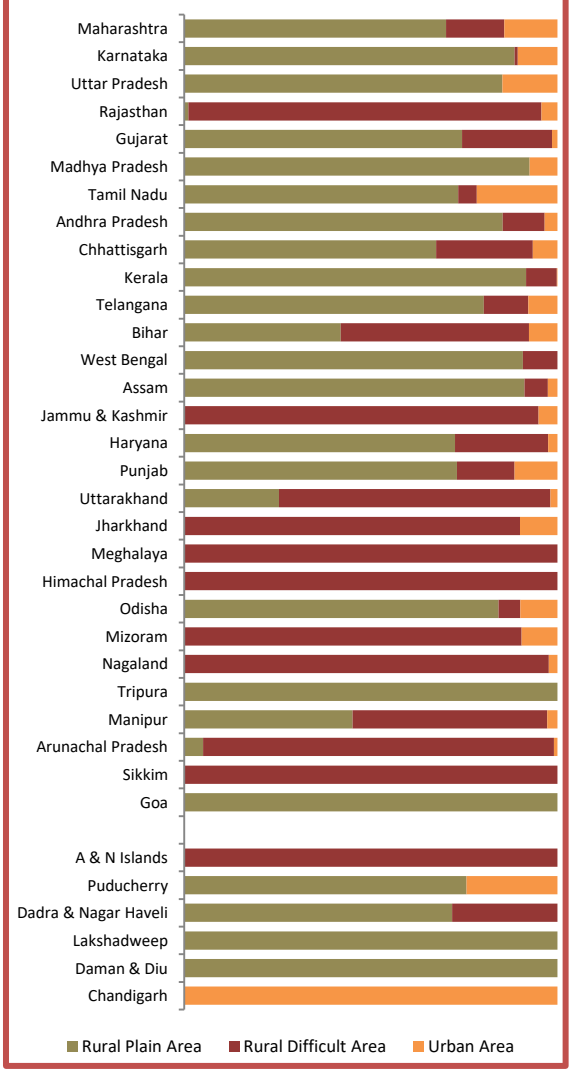


Figure 6: Proportion of beds in PHCs by serving area of PHCs, HMIS, 2019-20



In majority states, PHCs situated in difficult areas are equipped with 4 or more beds. In Rajasthan, Jammu & Kashmir, Uttarakhand, Jharkhand, Himachal Pradesh and all the north-eastern states major share of beds are accumulated in PHCs situated in rural-difficult areas. It is found that Maharashtra, Madhya Pradesh, Uttar Pradesh, Gujarat, Tamil Nadu, Telangana and Andhra Pradesh have majority beds in rural-Plain area PHCs (Figure 6).

It is noted that three-fourths of all PHC beds are concentrated in just 10 states – Maharashtra (11.6%), Karnataka (11.5%), Uttar Pradesh (10.7%), Rajasthan (9.0%), Gujarat (6.7%), Madhya Pradesh (6.7%), Tamil Nadu (6.7%), Andhra Pradesh (5.6%), Chhattisgarh (3.4%) and Kerala (3.4%). More than 80 percent of all beds in rural PHCs are concentrated in 12 states - Karnataka (11.2%), Maharashtra (10.8%), Uttar Pradesh (9.9%), Rajasthan (9.4%), Gujarat (7.3%), Madhya Pradesh (6.8%), Andhra Pradesh (5.9%), Tamil Nadu (5.5%), Kerala (3.7%), Chhattisgarh (3.5%), West Bengal (3.4%) and Telangana (3.3%). Among urban PHCs 80 percent of total beds in India are concentrated in just 7 states - Maharashtra (19.4%), Uttar Pradesh (18.5%), Tamil Nadu (16.5%), Karnataka (14.4%), Madhya Pradesh (5.9%), Rajasthan (4.5%) and Telangana (3.1%).

6. Population and Spatial Coverage

Coverage data of any health institution provides vital information about its catchments areas, its population coverage and accessibility. In HMIS infrastructure data coverage of all the PHCs in terms of population being catered and geographical coverage in (in km^2) area is provided. This information is necessary for planning for transport facility, human resources and services to be offered at PHC. Under Ayushman Bharat, PHCs are now being upgraded as Health and Wellness Centre and coverage data is crucial in many ways for optimal utilization of available resources at PHCs and providing extended range of health care services along with routine MCH services.

Population Coverage: Table 4 provides district-wise population coverage of PHC as reported in 2017-18, 2018-19 and 2019-20. There was substantial improvement in the reporting of population coverage data during 2017 to 2020. In 2017-18 as many as 122 PHCs did not report about population coverage. This number reduced to 97 in 2018-19 and further to only 13 PHCs in 2019-20. Non-reporting of data in HMIS has been a concern since the

inception. However, with close monitoring and repeated training of health staffs and data reporting personnel, reporting of data has gradually improved.

Table 4: District-wise average population covered by PHCs in rural and urban areas by year, HMIS, M.P.

Districts	2017-18				2018-19				2019-20			
	N	Rural	N	Urban	N	Rural	N	Urban	N	Rural	N	Urban
Agar Malwa	5	29428	1	20220	5	34662	1	20220	5	28434	1	37217
Alirajpur	13	29354	NA	NA	13	29549	NA	NA	16	6844	NA	NA
Anuppur	15	26433	NA	NA	15	35561	NA	NA	18	36672	NA	NA
Ashok Nagar	10	25459	1	11400	10	25743	1	14000	10	21561	1	0
Balaghat	35	21334	1	0	35	23223	1	170000	38	22365	1	0
Barwani	28	30702	2	62012	28	23339	2	31388	28	28041	2	62939
Betul	33	20032	2	57750	33	21109	2	91648	33	24255	2	90220
Bhind	20	31759	3	42993	20	37510	4	25173	24	34151	4	33789
Bhopal	9	69217	9	39222	9	31176	19	21395	9	35184	19	20826
Burhanpur	13	32458	2	50000	13	31633	2	50000	13	32819	2	85119
Chhatarpur	36	33616	2	6200	36	24988	3	5733	36	29233	3	15333
Chhindwada	66	16961	2	65391	66	23627	2	65391	67	15677	2	25478
Damoh	14	27026	1	20000	14	23676	1	46000	15	28071	1	16203
Datia	9	18858	1	50000	9	9946	3	17957	10	32027	2	21785
Dewas	18	12510	2	30007	18	6758	2	33107	20	18532	2	66958
Dhar	45	20308	3	46000	45	16757	5	7294	47	19584	3	38612
Dindori	22	16383	NA	NA	22	19401	NA	NA	22	20259	NA	NA
Guna	15	27432	3	49439	15	47320	3	50927	15	35286	4	38193
Gwalior	14	22179	15	21140	14	26365	19	33471	15	30152	29	13815
Harda	6	32382	1	15810	6	37444	1	16230	6	24424	1	50000
Hoshangabad	15	12462	3	20833	15	12608	3	34333	15	11746	3	34333
Indore	24	24388	17	80993	24	21724	14	42353	24	28214	24	42695
Jabalpur	22	42206	16	70458	22	25521	16	73782	22	37321	16	72493
Jhabua	17	24531	1	22000	17	33982	1	22000	18	35271	1	35753
Katni	17	23914	2	50640	17	21623	2	50000	18	22307	2	50640
Khandwa	30	13686	2	87500	30	25248	2	52500	30	17437	2	100369
Khargone	52	15511	2	61000	52	19033	3	44000	56	21029	3	18333
Mandla	30	20365	1	31000	30	23934	1	59414	33	21736	1	59414
Mandsaur	40	16899	1	24000	40	15406	1	25075	40	21428	1	30932
Morena	15	34645	2	50000	15	29215	3	41667	22	31331	2	111205
Narsinghpur	18	22169	2	35862	18	21064	2	57801	19	20328	2	65771
Neemuch	18	26171	1	33846	19	13371	1	33846	19	11924	1	20000
Panna	13	36445	1	62456	14	29283	1	62456	15	33244	1	63431
Raisen	18	16683	2	66583	18	19263	2	30931	19	21901	2	51475
Rajgarh	26	39577	1	60000	26	35591	1	15000	26	32017	1	52000
Ratlam	23	31315	4	61083	23	30161	4	61083	23	29983	4	72133
Rewa	27	34188	2	24400	27	23005	3	17933	32	21949	2	26446

Districts	2017-18				2018-19				2019-20			
	N	Rural	N	Urban	N	Rural	N	Urban	N	Rural	N	Urban
Sagar	26	35403	2	41431	26	36197	5	20094	27	22184	8	7500
Satna	41	20485	2	45650	41	25954	2	44000	45	25444	3	41407
Sehore	14	35092	2	44470	14	32078	2	79095	15	35101	3	105293
Seoni	30	13990	1	56894	30	13959	1	56894	31	18106	1	56894
Shahdol	29	25914	1	96484	29	23589	1	98484	29	25607	1	98484
Shajapur	13	28161	2	29807	13	43299	2	15440	14	33327	2	25766
Sheopur	9	44586	1	76900	9	44586	1	76900	11	35685	1	80000
Shivpuri	11	29550	2	25000	11	62559	2	40132	13	40087	2	40850
Sidhi	25	34328	1	25306	25	24434	1	54668	27	32299	1	62822
Singroli	12	50956	1	220257	12	51021	1	80000	12	49817	1	82560
Tikamgarh	20	20733	1	20000	20	23023	1	20000	21	14127	1	48000
Ujjain	22	32612	7	34179	22	28715	7	44618	22	21348	8	36980
Umaria	12	29096	1	33102	12	28119	1	33102	12	30383	1	0
Vidisha	21	20539	4	35507	21	19640	4	30000	23	23074	4	37172
Madhya Pradesh	**1116**	**25254**	**139**	**49099**	**1118**	**25117**	**162**	**40463**	**1180**	**24871**	**184**	**39487**

N: No. of PHCs reporting population coverage (Compiled from HMIS Annual Infrastructure report)

It was found that during 2017-18, 64 rural PHCs and 58 urban PHC did not report population coverage data. Majority non reporting PHCs were in Gwalior (15), Bhopal (10) and Morena and Sagar (8 each). In 2018-19 non-reporting rural and urban PHCs were 62 and 35 respectively. In 2019-20, seven UPHCs from Jabalpur district did not report population coverage. Population coverage in rural area has reduced from 25253 in 2017-18 to 24871 in 2019-20 and also number of PHCs have increased in rural from 1116 to 1180 during the ensuing period. Similarly in urban areas average population covered by each PHC was 49099 in 2017-18 and that has reduced to 39487 in 2019-20.

Large variation in population coverage was observed in districts. In 2019-20, highest average population covered by a rural PHC was 49817 in Singrauli district and lowest was 6844 in Alirajpur. There were 35 rural and 49 urban PHC that have reported zero population coverage in 2019-20. Population coverage between 10000 to 20000 was reported by 219 rural and 16 urban PHCs. Population coverage beyond 30000 was observed in 398 rural and 103 UPHCs. Indore and Jabalpur districts have maximum PHCs having population coverage of more than 30000. Some of the rural PHCs that had reported very high population coverage in 2019-20 were – Karthua: 220595 (Singroli), Hirdenagar: 203040 (Mandla), Berchha: 131873 (Shajapur), Umri: 112630 (Bhind), Badera: 98980 (Satna), Gormi: 97344 (Bhind), Cholna: 95987 (Anuppur), Fatehgarh: 94926 (Guna), Bhadora: 94747 (Guna),

Napanera: 90033 (Rajgarh), Mog Line: 90000 (Indore), Barela: 88696 (Jabalpur), Manpura: 85662 (Shivpuri), Malawar: 83552 (Rajgarh), Bargi: 80816 (Jabalpur), Madrani: 80000 (Jhabua), Ratanpur: 78746 (Khargone), Bhadurpur: 78652 (Ashok Nagar), Bajrangad: 77331 (Guna), Rajendra Nagar: 76000 (Indore).

Coverage Area: In 2017-18 out of total rural PHCs, 91 did not report their coverage area. This number has reduced to 68 in 2018-19. In 2019-20 except PHC Chenpura in Meghnagar block of Jhabua district, all the PHCs had reported coverage area. In 2017-18, 2018-19 and 2019-20 mean coverage area of rural PHCs was observed to be 274.2, 191.4 and 77.4 km^2 respectively. In 2019-20 maximum coverage area of 15000 km^2 was reported by PHC Jhaknawda of Petlawad block in Jhabua district. As many as 55 rural PHCs had reported coverage area as 0 km^2. Altogether 20 PHCs reported more than 1000 Km^2 of coverage in 2019-20. Geographical coverage of 258 PHCs was reported as less than 10 Km^2. In 30 districts all CHCs have reported about their coverage area in HMIS. Annual infrastructure data for 2019-20 show that on the one extreme nearly 13 percent of PHCs have coverage area of more than 100 km^2 and on the other extreme 5 percent of PHCs have reported coverage area a 0 km^2 (Figure 7). It is evident that though reporting of coverage area is almost cent percent but data being reported need to be monitored for correctness and precise figure should be reported. Most of the facility in-charge and block programme managers are not aware of concept of geographical coverage and therefore did not report it correctly in HMIS.

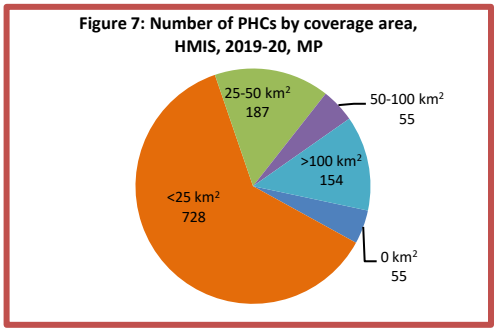


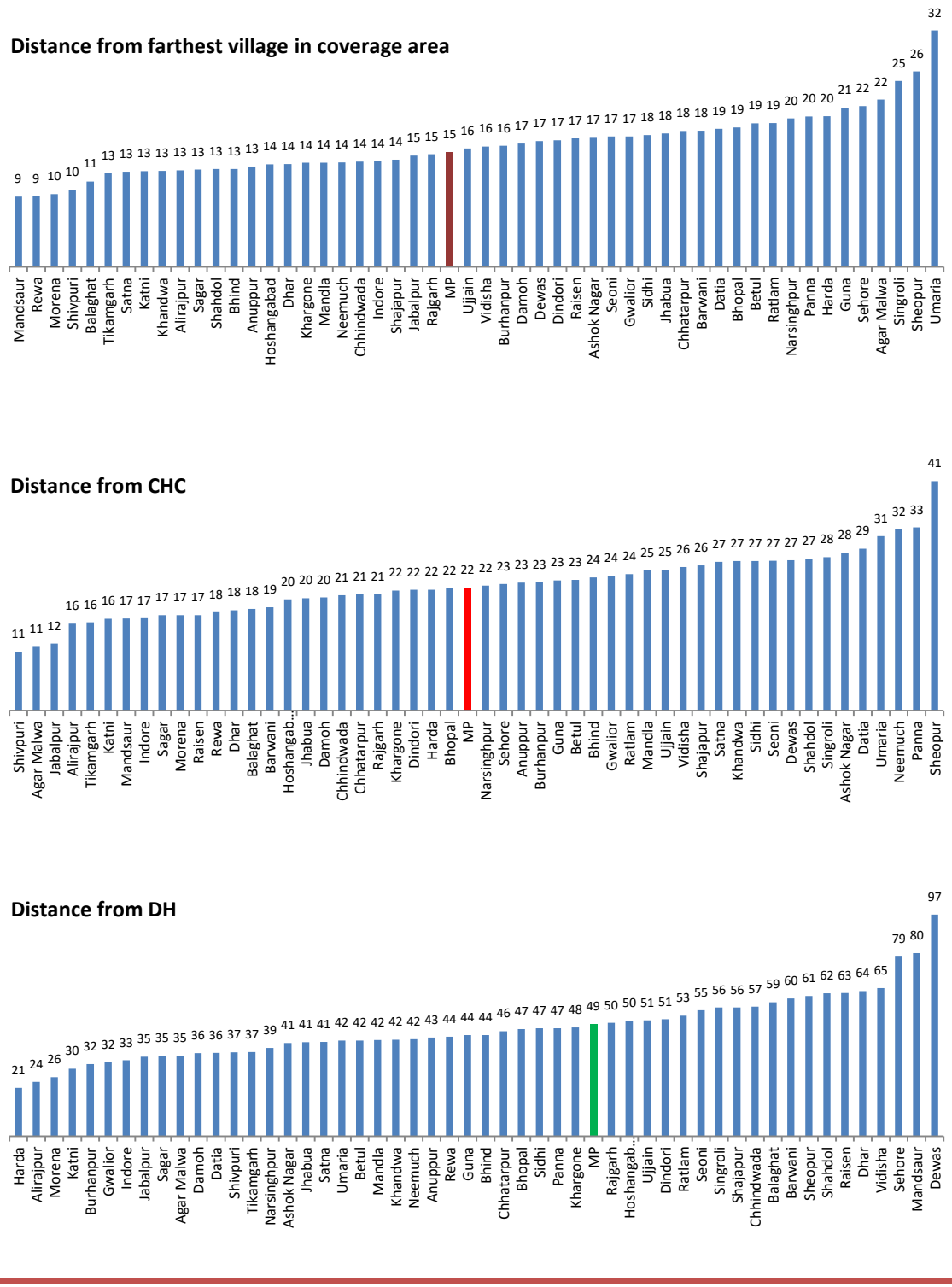
Figure 7: Number of PHCs by coverage area, HMIS, 2019-20, MP

HMIS annual infrastructure data captures two more location parameters – distance of PHC from farthest village in coverage area, distance of PHC to CHC and DH. These are important parameters which can be utilized for planning purpose.

Data reported for 2019-20 annual infrastructure report in HMIS show that nearly 10 percent of the rural PHCs have reported distance from farthest village, distance from nearest CHC and distance form district hospital as 0 kms. Average distances of PHC from farthest village, CHC and DH in districts of Madhya Pradesh (Figure 8) shows that coverage area of the PHCs in more scattered in Umaria district where farthest village is situated at an average distance of 32 km followed by Sheopur (26 kms) and Singrauli (25 km.). On average

distance of PHCs from CHC is highest in Sheopur which is 41 kms and lowest in Shivpuri and Agar malwa having 11 kms.

Figure 8: Average distance (kms.) of PHCs from farthest village, CHC and DH, HMIS, 2019-20, MP



Average distance of PHC from district hospital is farthest in Dewas - 97 kms. and shortest in Harda district at 24 kms. For Madhya Pradesh state as a whole, average distance of a PHC from its farthest village is 15 kms., from CHC it is 22 kms. and from DH it is 49 kms.

7. Physical Infrastructure

For every PHC in the rural and urban areas availability and status of physical infrastructure is reported in HMIS for 2019-20 has been analyzed. For the study purpose availability of building, condition of interior and exterior, essential amenities and infrastructure has been considered.

Building and its Area: Out of total 1377 PHCs (Rural: 1180 & UPHC: 197), 1363 had reported about ownership of the PHC building; whether it is government owned building or rented / rent free building. There were 14 non-reporting PHCs (Rural: 1 & UPHC: 13). Altogether 1141 rural and 95 UPHCs were functioning from own government building (Table 5). It is seen that out of 134 PHCs (Rural: 45 & UPHC: 89) which did not have own government building and for which building status was reported, 37 were functioning from rent free building and 97 from a rented premises. Majority UPHCs were housed in rented premises. In rural area 50 PHCs and five UPHCs having own government building did not report about area of the PHC building.

Table 5: No. of PHCs having own government building, HMIS, 2019-20, MP

District	Rural		Urban	
	Total PHCs	Have Govt building	Total PHCs	Have Govt building
Agar Malwa	5	5	1	0
Alirajpur	16	15	NA	NA
Anuppur	18	18	NA	NA
Ashok Nagar	10	10	1	0
Balaghat	38	38	1	1
Barwani	28	28	2	0
Betul	33	33	2	0
Bhind	24	20	4	0
Bhopal	9	9	19	15
Burhanpur	13	13	2	0
Chhatarpur	36	35	3	1
Chhindwada	67	66	2	1
Damoh	15	14	1	1
Datia	10	10	2	2

District	Rural		Urban	
	Total PHCs	Have Govt building	Total PHCs	Have Govt building
Dewas	20	20	2	0
Dhar	47	47	3	1
Dindori	22	22	NA	NA
Guna	15	15	4	2
Gwalior	15	14	29	20
Harda	6	6	1	0
Hoshangabad	15	15	3	1
Indore	24	24	24	15
Jabalpur	22	20	16	6
Jhabua	17	17	1	1
Katni	18	18	2	1
Khandwa	30	30	2	0
Khargone	56	53	3	3
Mandla	33	33	1	0
Mandsaur	40	38	1	0
Morena	22	16	2	2
Narsinghpur	19	19	2	0
Neemuch	19	19	1	0
Panna	15	14	1	1
Raisen	19	16	2	0
Rajgarh	26	26	1	1
Ratlam	23	23	4	1
Rewa	32	31	2	0
Sagar	27	27	8	7
Satna	45	42	3	2
Sehore	15	14	3	1
Seoni	31	30	1	0
Shahdol	29	29	1	1
Shajapur	14	14	2	0
Sheopur	11	9	1	1
Shivpuri	13	13	2	0
Sidhi	27	26	1	0
Singroli	12	12	1	1
Tikamgarh	21	20	1	0
Ujjain	22	21	8	3
Umaria	12	12	1	1
Vidisha	23	22	4	2
Total	**1179**	**1141**	**184**	**95**

In Madhya Pradesh average building area of a rural PHC having government building is 2289 m^2 and urban PHC have area of 590.89 m^2 (Table-6). In Madhya Pradesh 32 PHCs (Rural: 27 & UPHC: 5) having government building reported area of building less than 100

m^2 or about 1000 ft^2. Kohani Dewri and Manikapur PHCs in Dindori district have largest building area of 11000 m^2. Fifteen PHCs have building area ranging between 5000 and 6400 m^2 and 53 PHCs have building area between 2000 and 5000 m^2.

Table 6: Average building area of PHCs having own government building, HMIS, 2019-20, M.P.

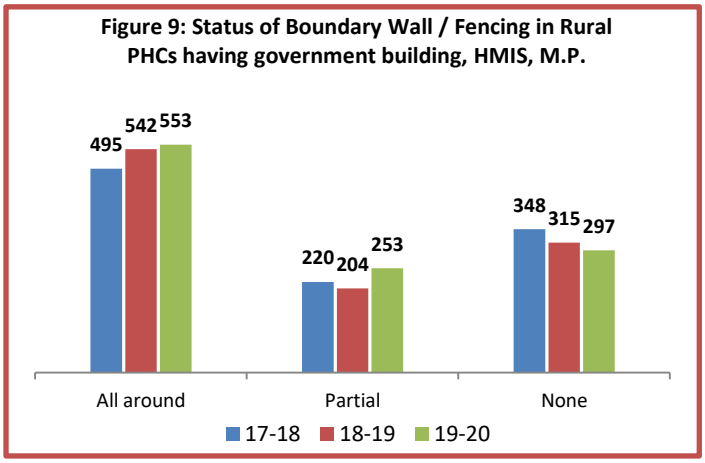
District	Rural					Urban				
	Total PHCs	Reporting PHC	Building Area (m^2)			Total PHCs	Reporting PHC	Building Area (m^2)		
			Average	Min.	Max.			Average	Min.	Max.
Agar Malwa	5	5	5100.00	2500	10000	1	0	NA	NA	NA
Alirajpur	16	15	26.27	0	120	NA		NA	NA	NA
Anuppur	18	18	2746.17	0	10000	NA		NA	NA	NA
Ashok Nagar	10	10	1385.20	0	2502	1	0	0	NA	NA
Balaghat	38	38	2774.16	0	12000	1	1	0.00	0	0
Barwani	28	28	1006.29	0	12500	2	0	NA	NA	NA
Betul	33	33	889.03	0	5000	2	0	NA	NA	NA
Bhind	24	20	1445.80	0	5600	4	0	NA	NA	NA
Bhopal	9	9	3537.44	150	10000	19	15	83.33	0	1000
Burhanpur	13	13	1868.85	385	4000	2	0	NA	NA	NA
Chhatarpur	36	35	8578.00	0	100000	3	1	0.00	0	0
Chhindwada	67	66	1236.67	0	12000	2	1	1245.00	1245	1245
Damoh	15	14	1461.79	300	5000	1	1	100.00	100	100
Datia	10	10	435.80	0	930	2	2	7.00	0	14
Dewas	20	20	1940.50	0	4500	2	0	NA	NA	NA
Dhar	47	47	911.81	0	4000	3	1	0.00	0	0
Dindori	22	22	4284.14	0	11000	NA		NA	NA	NA
Guna	15	15	1605.13	0	5000	4	2	40.00	0	80
Gwalior	15	14	3821.71	4	15000	29	20	165.00	0	1350
Harda	6	6	72.00	0	210	1	0	NA	NA	NA
Hoshangabad	15	15	2294.00	0	8000	3	1	1300.00	1300	1300
Indore	24	24	1243.50	0	5000	24	15	760.00	0	3000
Jabalpur	22	20	1611.40	0	12000	1	6	169.83	0	372
Jhabua	17	17	5453.71	0	22000	1	1	1200.00	1200	1200
Katni	18	18	2111.94	0	5000	2	1	0.00	0	0
Khandwa	30	30	2382.60	0	12000	2	0	NA	NA	NA
Khargone	56	53	793.79	0	5000	3	3	833.33	0	1500
Mandla	33	33	1206.03	0	5000	1	0	NA	NA	NA
Mandsaur	40	38	1293.68	0	7000	1	0	NA	NA	NA
Morena	22	16	1681.38	0	5000	2	2	0.00	0	0
Narsinghpur	19	19	2392.26	0	20000	2	0	NA	NA	NA
Neemuch	19	19	342.11	60	1728	1	0	NA	NA	NA
Panna	15	14	1773.21	0	5000	1	1	485.00	485	485
Raisen	1	16	1567.38	0	5400	2	0	NA	NA	NA
Rajgarh	26	26	1735.38	0	10000	1	1	0.00	0	0
Ratlam	23	23	3729.91	0	40000	4	1	756.00	756	756
Rewa	32	31	1248.39	0	5000	2	0	NA	NA	NA
Sagar	27	27	413.81	0	5000	8	7	85.71	0	200

District	Rural					Urban				
	Total PHCs	Reporting PHC	Building Area (m^2)			Total PHCs	Reporting PHC	Building Area (m^2)		
			Average	Min.	Max.			Average	Min.	Max.
Satna	45	42	972.83	0	5000	3	2	11250.00	0	22500
Sehore	15	14	385.14	178	623	3	1	186.00	186	186
Seoni	31	30	614.33	150	3600	1	0	NA	NA	NA
Shahdol	29	29	19189.31	0	87000	1	1	400.00	400	400
Shajapur	14	14	5321.43	1000	20000	2		NA	NA	NA
Sheopur	11	9	150.00	30	320	1	1	2000.00	2000	2000
Shivpuri	13	13	1904.92	0	22500	2	0	NA	NA	NA
Sidhi	27	26	1541.96	0	6500	1	0	NA	NA	NA
Singroli	12	12	2575.00	0	5400	1	1	0.00	0	0
Tikamgarh	21	20	545.00	0	3000	1	0	NA	NA	NA
Ujjain	22	21	1095.05	0	7140	8	3	1400.00	0	3000
Umaria	12	12	3350.00	0	6000	1	1	0.00	0	0
Vidisha	23	22	374.45	0	1024	4	2	800.00	0	1600
Total	**1179**	1141	2289.33	0	100000	**184**	95	590.89	0	22500

Condition of Exterior and Interior: A proper compound wall or fencing all around the PHC premises and proper interior including walls and flooring is essential, it must be intact in order to prevent dust, water seepage to maintain contamination free and hygienic condition in the health institutions. Table 7 report about exterior and interior of PHCs as reported in 2019-20.

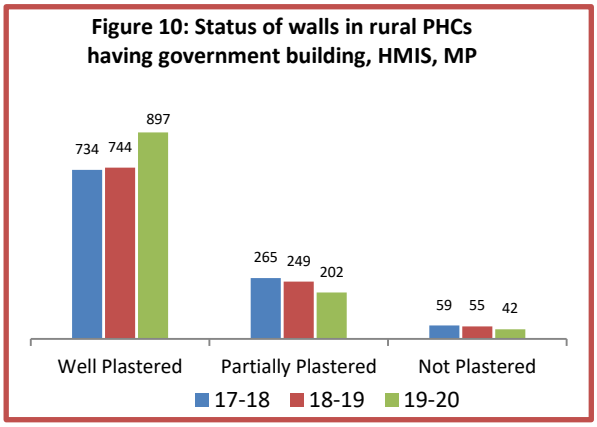
Figure 9 shows that there is systematic increase in the number of PHCs in rural area with all over boundary wall/fencing. There is an increase from 495 PHCs in 2017-18 to 553 in the year 2019-20. This improvement could be attributed to the rapid transformation of PHCs into health and wellness centres (HWCs) in which importance of adequate infrastructure is stressed upon. Similarly, PHCs having partially covered with boundary wall has also increased and in 2019-20 253 such PHCs did exist. Still around 300 PHCs or one-fourth of all the rural PHCs do not have boundary wall at all. It is found that in Agar Malwa and Shahdol all the rural PHCs have all-round boundary wall. In 13 districts - Rewa (19), Ratlam (11), Vidisha (11), Indore (11), Betul

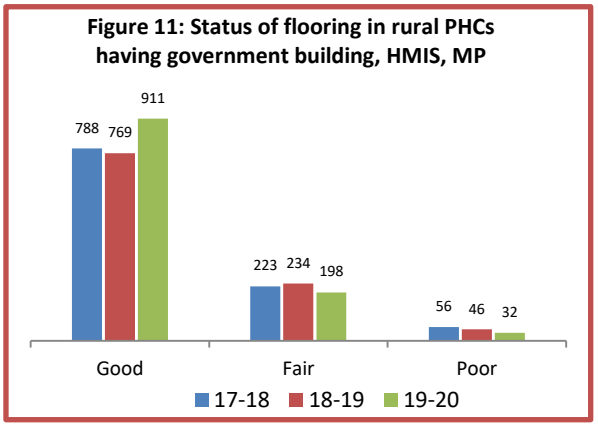
Figure 9: Status of Boundary Wall / Fencing in Rural PHCs having government building, HMIS, M.P.



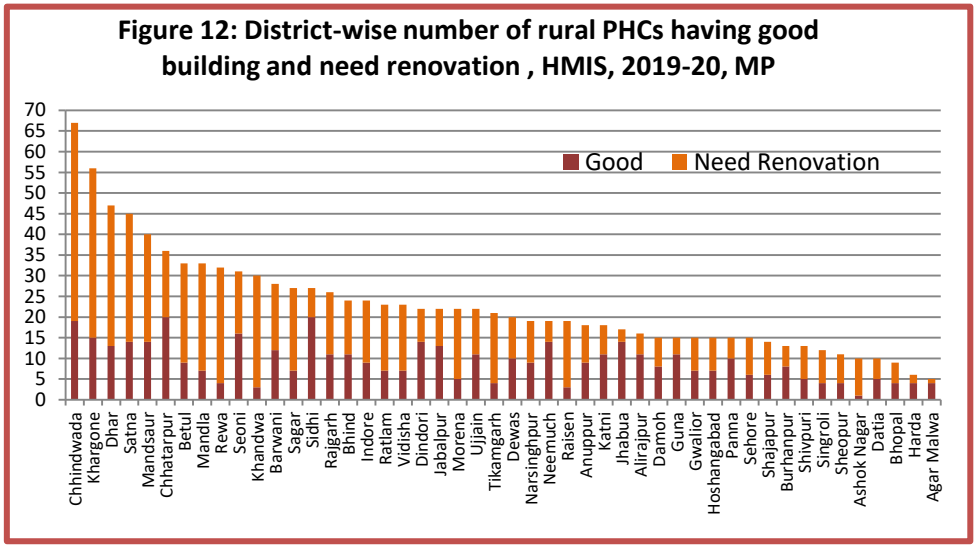
(14), Mandla (14), Singroli (5), Khargone (23), Dewas (8), Sehore (6), Satna (17), Ujjain (8) and Tikamgarh (7) more than one-third of all the rural PHCs still do not have boundary wall.

In 2019-20 condition of wall and flooring in rural PHCs reported to have improved as compared to previous years. There were 897 and 911 rural PHCs respectively having well plastered walls and flooring in good condition (Figure 10 & 11). It is reported that in 202 rural PHCs plaster on the wall is partially intact in the building, in 42 PHCs there is no plaster on walls. Condition of flooring reported to be fair in 198 PHCs and poor in 32 PHCs.





It is noted that 469 PHCs in 2019-20 had reported their building condition in good state with all round boundary wall, well plastered walls and good flooring. This number was 432 in 2018-19 and 367 in 2017-18. Balaghat and Umaria districts did not have even a single PHC having good building in all three aspects – all round boundary wall, well plastered wall and good flooring (Figure 12).



All together 660 rural PHCs need renovation in one or the other way with respect to condition of building. In 15 districts - Seoni, Damoh, Chhatarpur, Jabalpur, Katni, Burhanpur, Dindori, Panna, Harda, Alirajpur, Guna, Neemuch, Sidhi, Agar Malwa, Jhabua, Shahdol more than half of the PHCs buildings are in over all good condition.

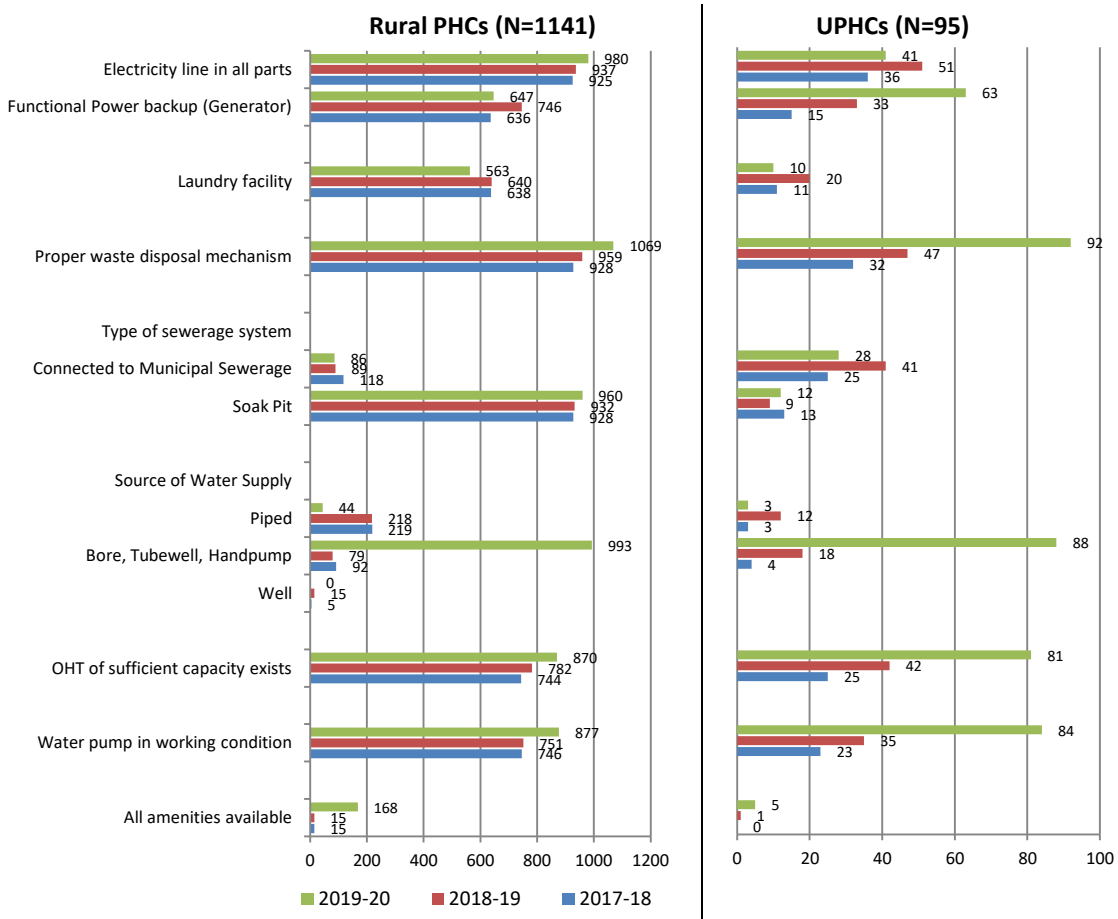
Basic Amenities: Information and availability on electricity, laundry, sewerage system, waste disposal and source of water has been captured in HMIS annual infrastructure reports for each PHC. It is noted that 189 rural and 56 UPHCs did not report about availability of one or the other type of amenity in HMIS. For rural PHCs, this information was not reported by more than 10 PHCs in Balaghat, Rewa, Khargone, Khandwa, Umaria and Tikamgarh districts. Similarly this information was missing from HMIS reports for at least 3 UPHCs in Gwalior, Bhopal, Indore and Sagar districts.

Availability of basic amenities for rural PHCs and UPHCs (Figure 13) reflects the paucity of basic amenities in almost all areas, though an improvement has been visible during past three years. Electricity being a core basic amenity, its availability in all parts of PHCs has increased over the time, though it is not matched with the power backup facility. It is necessary to have generator or solar power backup especially in rural and remote areas where frequent power cuts and seasonal fluctuation is more common.

There is almost 10 times increase in the availability of bore/tubewell/handpump during past three years in rural PHCs. This is a much needed upgrade as water is also a basic amenity. Availability of improved source of water has not been coupled with adequacy of storage capacity in over head tank and provision for working pump to uplift the water from its source. The situation in the UPHCs has been improved in 2019-20 as many UPHCs are being provided with all the basic amenities.

Laundry service is a basic necessity in all the health institution. It ensures basic hygiene for inpatients as well as service providers. For all essential services such as delivery, surgical procedures clean and sterilized linen is a pre-requisite. In house or outsourced laundry is available in only 563 rural PHCs and 10 UPHCs as reported in 2019-20. This number has reduced since 2017-18.

Figure 13: Number of PHCs having government building and basic amenities, HMIS, MP



Availability of proper sewerage system is an integral part of any health institution whether providing primary or secondary or tertiary care service. Majority PHCs reported having soak-pit to discharge waste water, whereas 86 rural PHCs and 28 UPHCs reported to have sewerage connected to the municipal sewerage system in 2019-20.

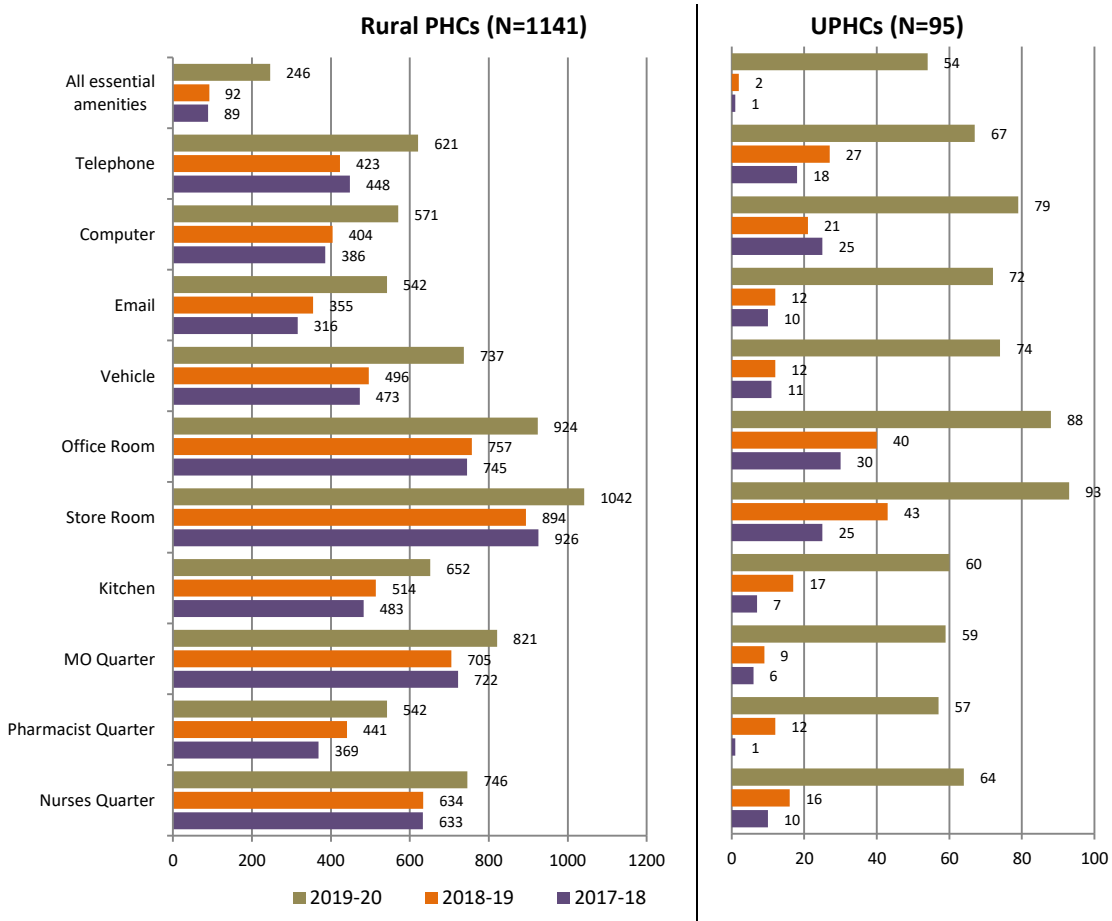
It was found that only 168 rural PHCs and 5 UPHCs have all basic amenities. This needs a closer look as PHCs are first port for all basic health emergencies in the community.

Essential amenities: In conjunction with basic amenities every PHC is supposed to have essential infrastructure. These include essential means of communication (telephone, computer and email), infrastructure for administrative set-up of PHC and residential facilities for the staff. It is observed that most of the PHCs lack or not adequately supported

with all essential infrastructures. PHCs which did have these facilities were seldom found in working condition.

HMIS data for last three years (Figure 14) show that there has been an impressive progress in the availability of essential communication and support infrastructure amenities in rural and urban PHCs. More than half of the rural PHCs now have kitchen facility, vehicle, MO and nurses quarter. Number of rural PHCs with telephone has increased to 621 but they are not supported equally with computer and dedicated email facility. Availability of kitchen has increased to 652 rural PHCs and 60 UPHCs which is an integral service for the JSSK programme. Availability of vehicle at PHC is also improved and 737 rural and 74 UPHCs now supported with vehicle.

Figure 14: Number of PHCs having government building and essential amenities, HMIS, MP



It is noted that there is lot of scope for improving availability of all essential infrastructure in various PHCs. Only 246 out of total 1141 rural PHCs have all the essential

communication and support infrastructure in place. In contrast, more than half of the UPHCs have all essential amenities. It is noted that in Ratlam, Rewa, Shivpuri, Vidisha districts majority rural PHCs have all essential amenities. Further is revealed that in 19 districts less than five rural PHCs have all essential amenities. (Table 7).

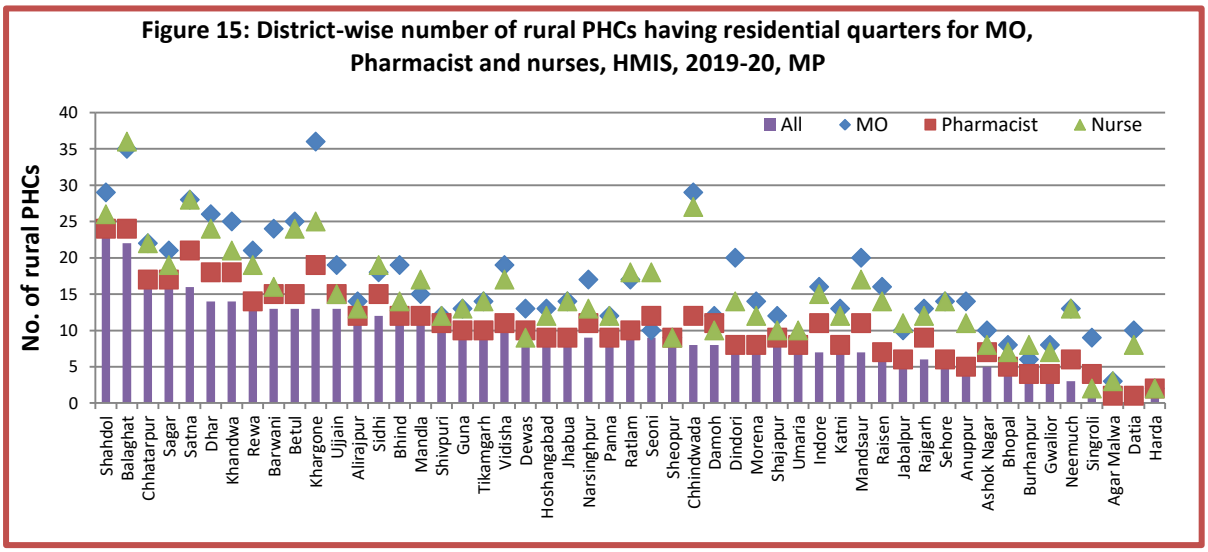
Table 7: No. of rural PHCs having own government building and essential amenities, HMIS, 2019-20, MP

District	Total PHCs	Tele-phone	Computer	Email	Vehicle	Office	Store	Kitchen	All Amenities
Agar Malwa	5	4	1	4	3	5	5	3	1
Alirajpur	15	13	7	8	14	15	15	15	7
Anuppur	18	9	12	10	15	13	16	13	5
Ashok Nagar	10	8	6	7	5	10	10	7	4
Balaghat	38	31	18	20	28	38	38	22	10
Barwani	28	24	11	9	20	27	26	13	3
Betul	33	16	11	9	17	27	29	14	3
Bhind	20	11	13	14	15	19	19	12	9
Bhopal	9	4	5	4	4	5	9	8	1
Burhanpur	13	7	5	4	9	9	12	4	4
Chhatarpur	35	8	7	6	17	23	26	16	11
Chhindwada	66	39	32	23	40	39	51	34	5
Damoh	14	6	11	6	11	13	14	11	1
Datia	10	2	4	3	8	10	10	4	3
Dewas	20	6	9	8	16	14	17	17	3
Dhar	47	24	10	10	34	33	37	13	5
Dindori	22	4	2	3	16	18	22	11	2
Guna	15	9	10	11	10	14	15	12	1
Gwalior	14	6	6	7	11	11	11	6	5
Harda	6	2	1	1	2	2	2	1	2
Hoshangabad	15	12	9	11	10	12	13	10	8
Indore	24	9	11	8	11	21	24	13	8
Jabalpur	20	15	13	13	12	20	20	16	11
Jhabua	17	9	12	8	15	15	17	13	4
Katni	18	16	14	13	15	18	18	18	6
Khandwa	30	13	11	8	17	23	30	16	7
Khargone	53	25	32	26	26	27	43	12	6
Mandla	33	21	9	10	23	20	32	21	4
Mandsaur	38	14	22	20	15	29	38	14	7
Morena	16	8	9	11	9	15	16	10	1
Narsinghpur	19	14	15	17	12	17	19	11	3
Neemuch	19	5	8	11	6	13	17	7	7
Panna	14	8	8	8	10	14	14	14	5
Raisen	16	11	15	14	10	15	15	14	6
Rajgarh	26	5	14	11	13	19	25	12	6
Ratlam	23	11	9	10	11	19	23	17	13
Rewa	31	23	8	11	24	26	29	22	12
Sagar	27	16	17	23	19	23	24	17	1
Satna	42	26	30	20	28	37	37	20	2
Sehore	14	1	14	14	0	14	14	1	5

District	Total PHCs	Tele-phone	Computer	Email	Vehicle	Office	Store	Kitchen	All Amenities
Seoni	30	11	16	14	17	22	27	9	9
Shahdol	29	16	3	2	29	29	29	29	10
Shajapur	14	6	10	11	12	12	12	7	8
Sheopur	9	9	9	9	9	9	9	9	1
Shivpuri	13	11	12	11	13	13	12	12	10
Sidhi	26	18	12	12	21	23	20	17	6
Singroli	12	7	3	4	4	10	9	6	6
Tikamgarh	20	12	17	15	12	16	20	15	4
Ujjain	21	14	10	11	14	18	18	9	1
Umaria	12	8	9	8	11	11	12	9	4
Vidisha	22	14	9	11	14	19	22	16	11
Total	**1141**	**621**	**571**	**542**	**737**	**924**	**1042**	**652**	**261**

Residential Quarters: In Madhya Pradesh, PHCs have been categorized as 24x7 BEmOC or level-2 PHCs and PHCs having only primary care services. Now since all the PHCs are being upgraded as health and wellness centre, it is very essential that adequate residential facilities for medical, paramedical and support staffs is provisioned. Ideally every PHC should have accommodation for all the staffs to ensure round the clock services. Status of availability of residential quarters in the PHCs revealed (Figure 15) that out of 1141 rural PHCs residential quarters for medical officer, pharmacist and nurses is available at 821, 542 and 746 PHCs respectively and 469 rural PHCs have all three types of residential quarters.

Figure 15: District-wise number of rural PHCs having residential quarters for MO, Pharmacist and nurses, HMIS, 2019-20, MP

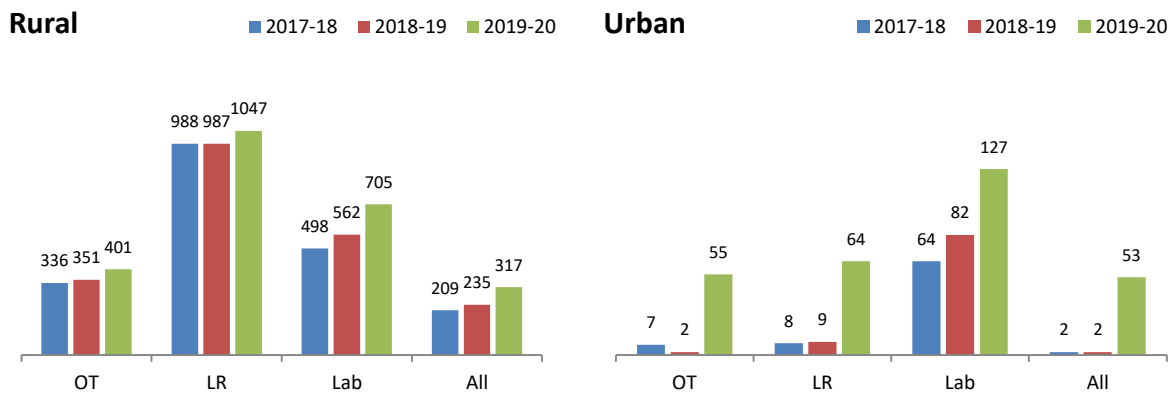


HMIS annual infrastructure does not capture provision of residential facility for staffs including lab technician, ANM and support staff. It also does not include number of available quarters. District-wise number of rural PHCs having residential quarters indicates that

Shahdol has 24 out of 29 and Balaghat has 22 out of 38 PHCs which have residential quarters for all cadre.

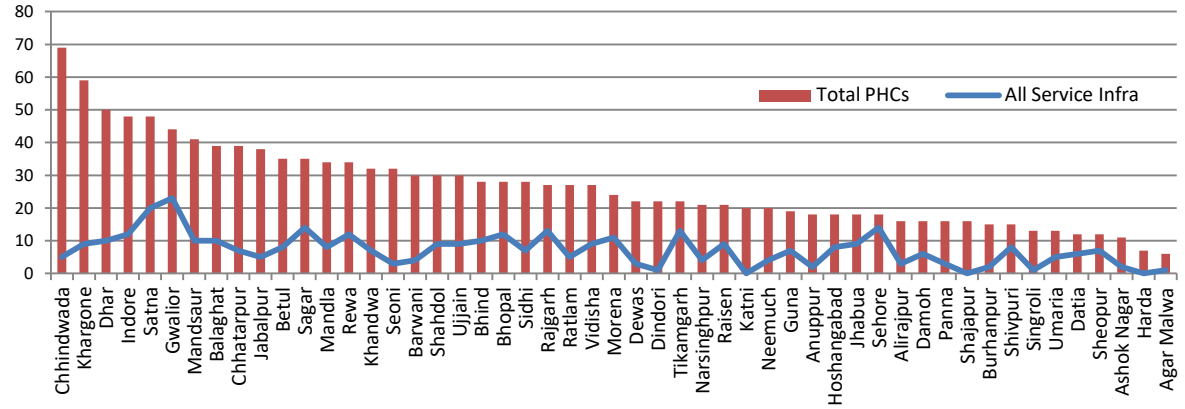
Service Infrastructure: Each PHC should have adequate infrastructure to provide certain essential services such as delivery, surgery and diagnostics. For providing these services it is necessary that PHCs are equipped with functional labour room, operation theater and laboratory. HMIS provides information on availability of these infrastructures and also whether they are being utilized for the purpose they are built. There was significant increase in the availability of operation theater, labour room and laboratory at the PHCs in both rural and urban areas in Madhya Pradesh. Number of rural PHCs which had all three infrastructures increased from 209 in 2017-18 to 317 in 2019-20 and for UPHCs this increment was from 2 to 53 in the same duration (Figure 16). In other words there was 52 percent increase in the number of PHCs that had all the essential service infrastructure. In rural area there were 401 PHCs having operation theater, 1047 PHCs having labour room and 705 PHCs having laboratory in 2019-20. Similarly there were 55, 64, 127 UPHCs having OT, labour room and laboratory respectively in 2019-20.

Figure 16: Number of PHCs having essential services infrastructure, HMIS, MP



It was noted that in Sehore, Tikamgarh, Sheopur, Shivpuri, Gwalior, Datia and Jhabua districts more than half of the PHCs have all the three essential services infrastructure. In Harda, Katni and Shajapur none of the PHCs had all three facilities available. In 17 districts which account for half of the PHCs in the state had 167 PHCs that had all the three services infrastructure in 2019-20 (Figure 17).

Figure 17: District-wise number of PHCs having all three essential services infrastructure (OT/LR/Lab) against total number of PHCs, HMIS, 2019-20, MP



8. Human Resource

Madhya Pradesh is facing an acute shortage of human resources for health care services. In rural areas majority health institutions are functioning without necessary staffs. Even contractual staffs are not available for placement in rural areas. Despite state governments efforts doctors and paramedic staffs are not willing to join rural health institutions even for higher wages. HMIS provides individual health facility level information on sanctioned and in-position staffs at PHCs. HMIS reports for 12 different categories of staffs in PHC annual infrastructure reports.

Number of sanctioned posts of medical officer ranges from 1 to 4 in PHCs. Out of 1330 PHCs, 1165 had one MO and 142 had two MO posts sanctioned. For pharmacist, 1192 PHCs have one post sanctioned and 192 had two posts sanctioned. For staff nurse 1141 PHCs have one post sanctioned and 169 PHCs have two staff nurse posts sanctioned. One lab technician post is sanctioned in 1291 PHCs and 27 PHCs have two posts of lab technician sanctioned. Number of PHCs having at least one sanctioned post each of MO, Pharmacist, Staff Nurse and lab technician together has increased from 618 in 2017-18 to 708 PHCs in 2018-19 and 1323 PHCs in 2019-20.

Table 8 provides total number of staffs in different category reported under HMIS. Over the last three years reporting about HR is improved and majority PHCs had reported number of in-position staffs. There was a reduction in total number of medical officers posted at PHCs, which were 946, 1210 and 1039 in 2017-18, 2018-19 and 2019-20

respectively. Similar situation was observed for lab technician, where number rose from 397 to 480 and then reduced to 384 during the three years. There was an increase in number of staff nurses and pharmacists in-position. There were 1006 staff nurses and 1048 pharmacists working in 2019-20.

Table 8: Number of PHCs reporting HR availability and in-position HR, HMIS, MP

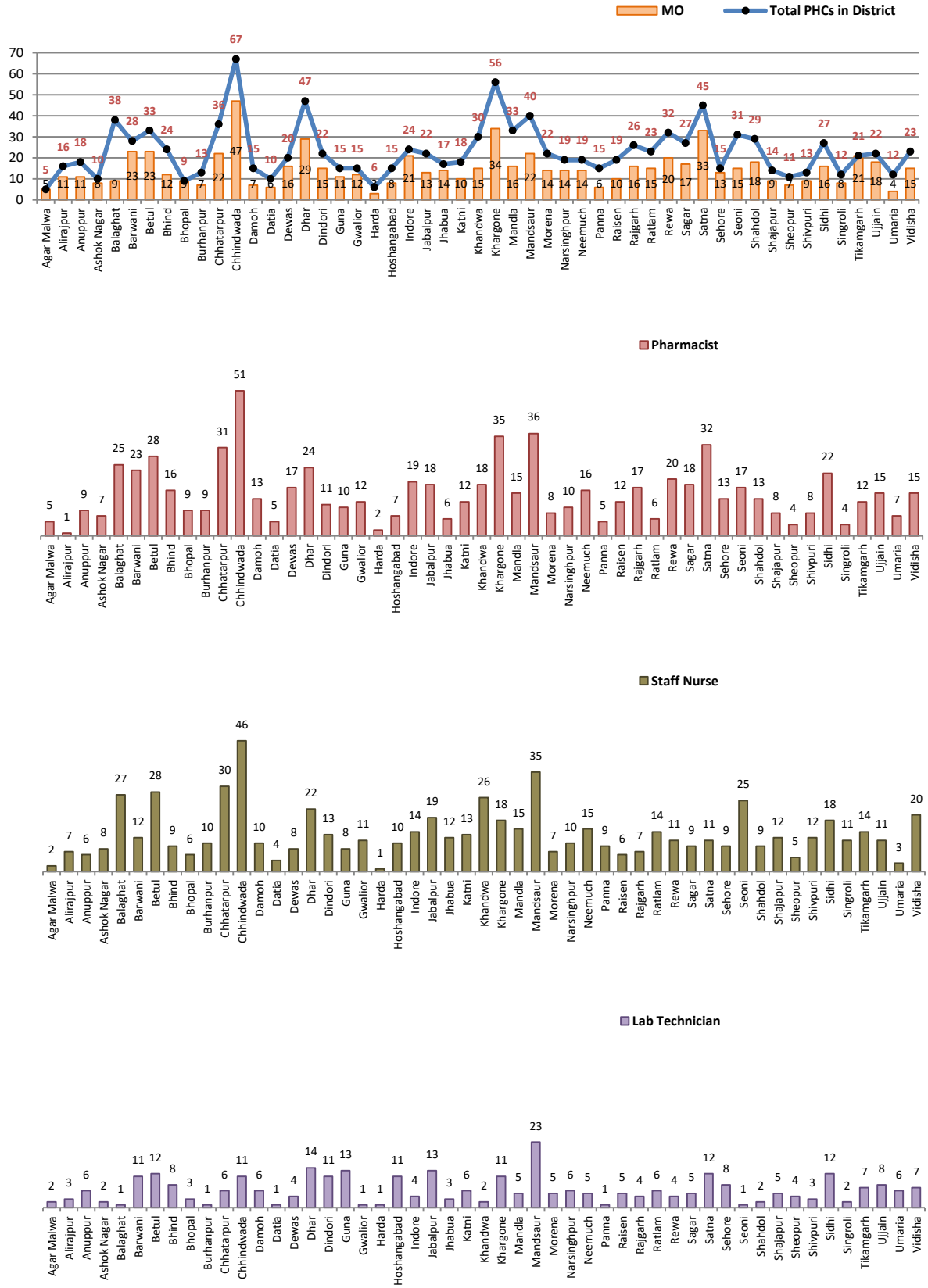
Designation	2017-18			2018-19			2019-20		
	PHCs reporting	Vacant	HR In-position	PHCs reporting	Vacant	HR In-position	PHCs reporting	Vacant	HR In-position
Medical Officer	1238	456	946	1273	322	1210	1330	469	1039
Pharmacist	1238	467	861	1269	509	890	1329	537	1006
Staff Nurse	1230	755	613	1273	683	839	1364	597	1048
Lab Technician	1216	852	397	1268	848	480	1329	981	384
Health Worker (Female)	1232	359	1576	1268	437	1393	1330	210	2298
Health Educator	1206	1154	77	1264	1216	54	1363	1352	11
Health Assistant	1209	806	466	1264	893	437	1363	876	644
Ayush Practitioner	1218	948	279	1268	969	318	1363	1057	318
Account Manager	1206	1171	45	1266	1230	45	1363	1352	12
Clerks	1213	1145	80	1264	1183	88	1363	1277	88
Driver	1207	1175	33	1263	1240	27	1363	1348	16
Class IV	1229	447	1109	1268	525	1050	1363	586	1274

It further revealed that in 2019-20 there were 469 PHCs that had no medical officer posted, 537 were without pharmacist, 597 were without staff nurse and 981 PHCs were without a lab technician in 2019-20. This shows a grim situation. There were 2298 female health workers in-position while 210 PHCs had no female health worker in-position.

Number of in-position staffs at the PHCs also revealed that in 2017-18 only 143 PHCs had at least positions filled of MO, Pharmacist, Staff Nurse and Lab technician. This number increased to 170 in 2018-19 and further declined to 152 in 2019-20. In other words, majority PHCs did not have all the staffs posted as per the requirement and only 152 PHCs had at least one MO, Pharmacist, Staff Nurse and Lab technician each in-position in 2019-20.

In Madhya Pradesh only 850 PHCs have all sanctioned post of medical officer filled, 790 PHCs have all posts of pharmacist filled, 757 PHCs have all posts of staff nurse filled and 346 PHCs have all posts of lab technician filled. District level variation in availability of medical officer, pharmacist, staff nurse and lab technician as per the respective sanctioned strength at rural PHCs is shown in Figure 18. It was found that in Agar Malwa and Bhopal all the PHCs had all the sanctioned posts of MOs and Pharmacists in-position.

Figure 18: District-wise total number of rural PHCs and number of PHCs having all sanctioned posts in-position, HMIS, 2019-20, MP



In all the districts only a fraction of PHCs have all sanctioned posts of staff nurse and lab technician in-position. It revealed that in Alirajpur, Harda, Sheopur and Singrauli districts less than five PHCs had all the sanctioned posts of Pharmacists in-position.

In 7 districts – Balaghat, Betul, Chhatarpur, Chhindwara, Khandwa, Mandsaur and Seoni 25 or more rural PHCs had all the posts of staff nurse filled. Majority rural PHCs each district had vacant position of lab technician. Except Mandsaur, Dhar, Guna, Jabalpur, Betul, Satna, Sidhi, Barwani, Chhindwara, Dindori, Hoshangabad and Khargone all the remaining districts had fewer than 10 rural PHCs had all the sanctioned posts of lab technician filled.

It is noteworthy that only 146 rural PHCs in 45 districts had at least one position of medical officers, pharmacist, staff nurse and lab technician filled. In other words, 6 districts - Alirajpur, Burhanpur, Morena, Panna, Seoni and Umaria there was not a single rural PHCs that had all the four health providers in-place. For urban PHCs, only five districts – Bhopal, Chhatarpur, Gwalior, Jabalpur and Khandwa have only one PHC each having all the four position of MO, pharmacist, staff nurse and lab technician in-place.

Support staff availability in the PHCs was found to be varying in the state. In 2019-20 there were 2298 ANMs posted at 1120 PHCs across the state. There were 450 PHCs having one ANM, 371 PHCs had 2 ANMs and 299 PHCs had three or more ANMs posted. In 210 PHCs there was not a single ANM posted (Figure 19). In all 218 AYUSH practitioners were posted in 306 PHCs. Majority PHCs had only one AYUSH practitioner posted. There were 644 health assistants posted in 487 PHCs and 1274 class IV staff posted in 777 PHCs (Table 9).

Figure 19: Distribution of PHCs with number of different staffs available, HMIS, 2019-20, MP

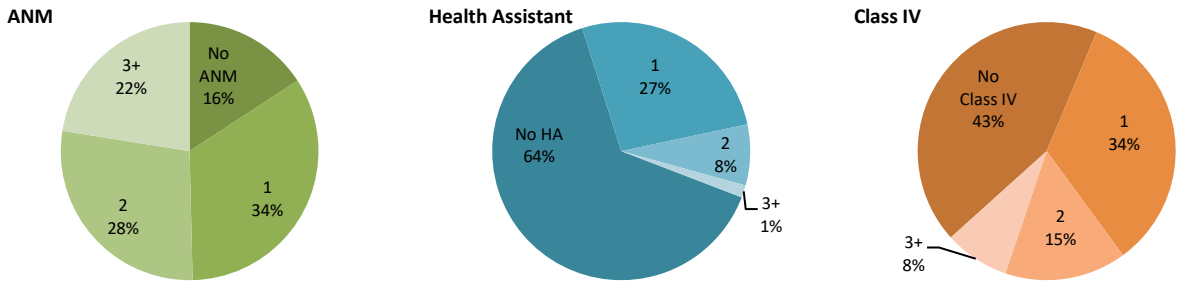


Table 9: Support staff availability in PHCs, HMIS, 2019-20, MP

Staff	No. of PHCs having in-position staff	Total number in-Position in PHCs	No. of PHC having no staff
ANM	1120	2298	210
Class IV	777	1274	486
Health Assistant	487	644	876
Aayush Practitioner	306	318	1057
Clerk	87	89	1277
Driver	15	16	1348
Health Educator	11	11	1352
Account Manager	11	12	1352

There were only 15 PHCs which had a driver posted, while only 11 PHCs has had health educator and accounts manager posted. It may be mentioned that staffing patterns in the state also varies as per the type of PHCs. Non-BEmOC PHC can have at most 6 health personnel including support staff, and for BEmOC PHC 10 posts are sanctioned. Now, since all the PHCs are bound to be upgraded as HWCs, the HR availability should match as per the HWC guidelines or IPHS guidelines. IPHS guidelines recommends staff strength of 13 health personnel is for a PHC having delivery case load of upto 20 deliveries per month.

9. Functionality of PHC

In Madhya Pradesh all the PHCs are categorized either as BEmOC or Non-BEmoC health care facility. However, most of the BEmOC PHCs are not functioning as per their designated status due to lack of services, staffs and other essential infrastructure. In HMIS, six types of services were grouped to cover 50 services to assess the functionality of PHCs. These are assured service, treatment of specific cases, MCH and Family Planning, specific services, essential laboratory services and other functions and services. Basic Emergency Services, Specialists Services, Emergency Services and Other Support Services.

Assured Services: It covers OPD, in-patient, emergency, referral and EmOC services. HMIS data for 2019-20 show that in Madhya Pradesh 121 PHCs covering 17 districts did not report about availability of any of assured services and had left data item blank except for referral services . It is seen that 1074 and 176 PHCs in rural and urban areas respectively had OPD services available (Figure 20). Emergency and in-patient services were available in 897 and 963 rural PHCs respectively. Out of 1179 rural PHCs 825 PHCs had all four assured services available. Similarly, out of 194 urban PHCs 53 had all four assured services. It was found that

358 rural PHCs and 50 urban PHCs also had emergency obstetric care services including c-section delivery facility. This claim needs verification as most PHCs either in rural or urban areas do not have necessary infrastructure for providing EmOC services.

Figure 20: Number of PHCs having assured services, HMIS, 2019-20, MP

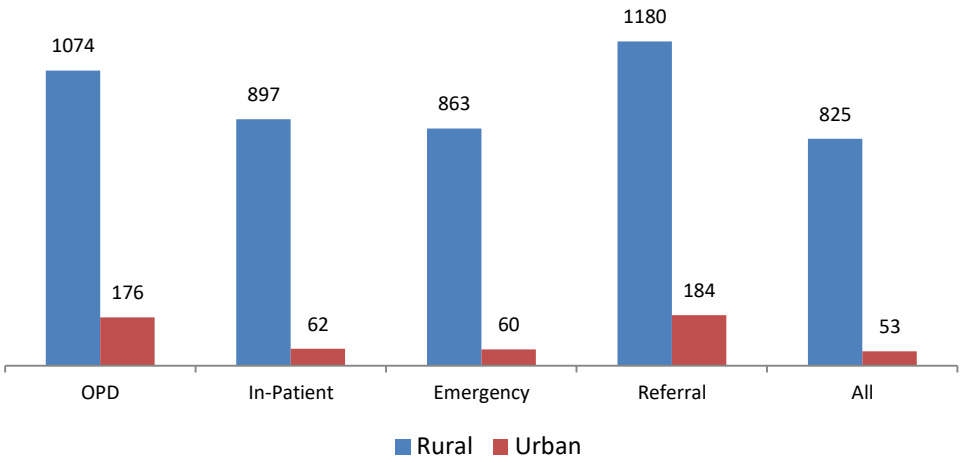


Table 10: District-wise number of PHCs having assured services, HMIS, 2019-20, MP

Districts	Rural					Urban				
	Total PHCs	OPD	In-Patient	Emergency	Referral	Total PHCs	OPD	In-Patient	Emergency	Referral
Agar Malwa	5	5	3	5	5	1	1	0	0	1
Alirajpur	16	16	15	15	16	NA	NA	NA	1	NA
Anuppur	18	17	17	15	18	NA	NA	NA	NA	NA
Ashok Nagar	10	10	10	9	10	1	1	NA	NA	1
Balaghat	38	NR	NR	NR	38	1	NA	NA	NA	1
Barwani	28	28	25	24	28	2	2	0	1	2
Betul	33	33	29	25	33	2	2	0	0	2
Bhind	24	24	18	13	24	4	4	0	0	4
Bhopal	9	9	7	5	9	19	19	10	10	19
Burhanpur	13	13	13	13	13	2	0	NA	NA	2
Chhatarpur	36	36	27	26	36	3	3	1	1	3
Chhindwada	67	66	53	52	67	2	2	0	0	2
Damoh	15	15	14	14	15	1	1	0	0	1
Datia	10	10	6	7	10	2	2	1	1	2
Dewas	20	20	20	20	20	2	2	0	0	2
Dhar	47	47	42	33	47	3	3	1	1	3
Dindori	22	22	21	21	22	NA	NA	NA	NA	NA
Guna	15	15	14	14	15	4	4	2	2	4
Gwalior	15	14	11	9	15	29	29	15	15	29
Harda	6	6	2	2	6	1	1	0	0	1
Hoshangabad	15	15	15	15	15	3	3	3	1	3
Indore	24	24	21	19	24	24	24	14	14	24
Jabalpur	22	22	17	15	22	16	14	4	6	16
Jhabua	17	18	17	16	18	1	1	1	0	1

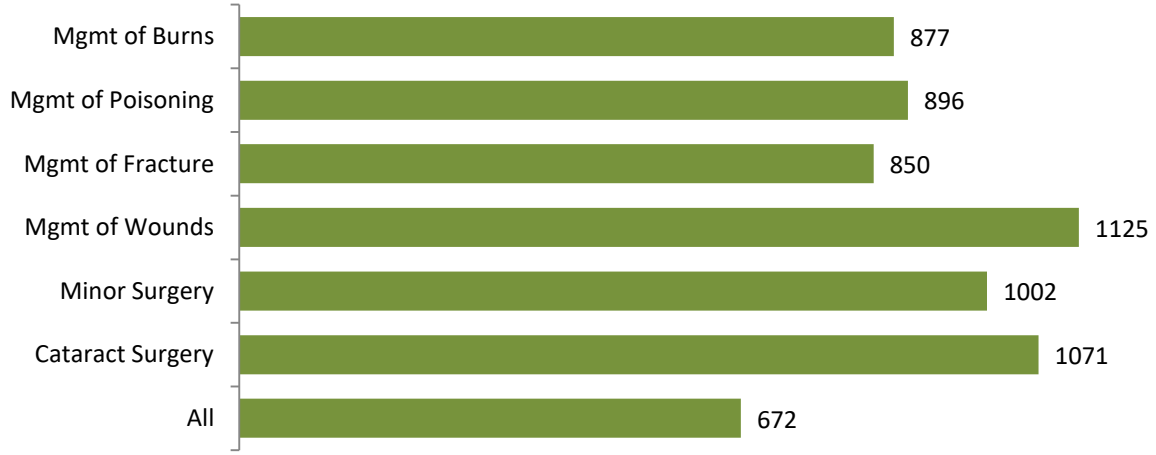
Districts	Rural					Urban				
	Total PHCs	OPD	In-Patient	Emergency	Referral	Total PHCs	OPD	In-Patient	Emergency	Referral
Katni	18	18	18	18	18	2	2	0	0	2
Khandwa	30	18	18	18	30	2	0	NA	NA	2
Khargone	56	46	41	36	56	3	3	1	1	3
Mandla	33	32	31	30	33	1	1	0	0	1
Mandsaur	40	40	25	23	40	1	1	0	0	1
Morena	22	22	9	9	22	2	2	2	0	2
Narsinghpur	19	19	16	16	19	2	2	0	0	2
Neemuch	19	19	13	14	19	1	1	0	0	1
Panna	15	14	14	14	15	1	1	0	0	1
Raisen	19	18	13	13	19	2	2	0	0	2
Rajgarh	26	26	18	17	26	1	1	0	0	1
Ratlam	23	23	20	20	23	4	4	0	0	4
Rewa	32	18	10	11	32	2	2	0	0	2
Sagar	27	25	22	22	27	8	8	4	4	8
Satna	45	38	22	27	45	3	3	1	1	3
Sehore	15	15	14	13	15	3	3	0	0	3
Seoni	31	31	30	29	31	1	1	0	0	1
Shahdol	29	29	29	29	29	1	1	1	0	1
Shajapur	14	14	12	10	14	2	2	0	0	2
Sheopur	11	11	8	8	11	1	1	0	0	1
Shivpuri	13	13	13	11	13	2	2	0	0	2
Sidhi	27	27	27	27	27	1	1	0	0	1
Singroli	12	12	10	11	12	1	1	0	0	1
Tikamgarh	21	16	13	12	21	1	1	0	0	1
Ujjain	22	22	17	20	22	8	8	1	1	8
Umaria	12	NA	NA	NA	12	1	0	NA	NA	1
Vidisha	23	23	17	18	23	4	4	0	0	4

Non-reporting in HMIS infrastructure data about availability of services is evident from Table 10. In Balaghat and Umaria districts none of the PHCs in rural and urban areas had reported about availability of assured services except referral service. In Rewa, Harda, Morena and Satna less than half of rural PHCs did not have in-patient services. In fourteen districts - Agar Malwa, Datia, Khandwa, Tikamgarh, Mandsaur, Neemuch, Raisen, Rajgarh, Sheopur, Khargone, Gwalior, Vidisha, Bhind and Chhatarpur between 75 and 50 percent of rural PHCs had in-patients services. Majority PHCs in these districts also did not have emergency services available as reported in HMIS for 2019-20. Out of 1236 PHCs having own government building, 866 PHCs (Rural: 817; Urban: 49) reported to have all assured services. In Burhanpur, Dewas, Sidhi, Shahdol, Katni, Hoshangabad, Alirajpur, Damoh, Seoni, Dindori and Ashok Nagar, more than 90 percent of PHCs functioning from own government

buildings had all the assured services available. In Datia, Satna, Morena, Harda, Rewa, Balaghat and Umaria less than half of the PHCs functioning from government building and not providing all assured services.

Treatment of specific cases: Every PHC supposed to provide treatment for specific cases which includes primary management of wounds, burns, fracture, poisoning and minor surgery (draining of abscess etc.). Availability of surgery of cataract at PHCs is also considered necessary. Figure 21 shows that out of 1236 PHCs functioning from own government building, 1125 provide services on management of wounds. Primary management of fracture is available only at 850 PHCs having own building.

Figure 21: Availability of treatment for specific cases at PHCs (having own govt building), HMIS, 2019-20, MP



Availability of services related to the treatment all specifics cases was reported as available in 615 rural PHCs and 57 urban PHCs functioning from own government building.

Table 11: District-wise number of PHCs having own government building and services for treatment of specific cases, HMIS, 2019-20, MP

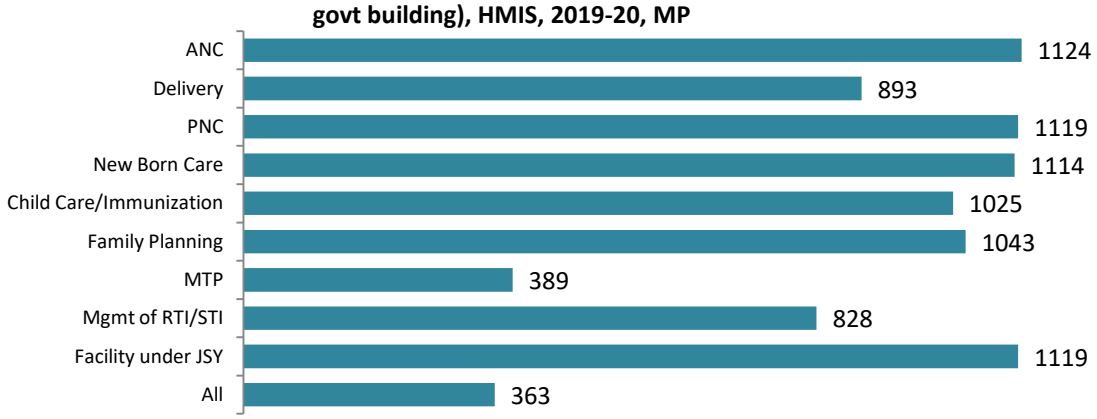
Districts	Total PHCs	Surgery		Primary Management of				All
		Cataract	Minor	Wounds	Fracture	Poisoning	Burns	
Agar Malwa	5	5	5	5	5	5	5	5
Alirajpur	15	15	14	15	14	14	14	14
Anuppur	18	17	17	17	12	14	13	12
Ashok Nagar	10	8	9	10	10	10	10	7
Balaghat	39	NR	NR	NR	NR	NR	NR	NR
Barwani	28	28	25	28	23	25	24	23
Betul	33	32	30	33	28	29	28	25

Districts	Total PHCs	Surgery		Primary Management of				All
		Cataract	Minor	Wounds	Fracture	Poisoning	Burns	
Bhind	20	19	19	20	15	14	20	13
Bhopal	24	21	19	23	17	18	22	15
Burhanpur	13	13	13	13	13	13	13	13
Chhatarpur	36	36	31	36	25	28	24	23
Chhindwada	67	65	48	66	53	50	50	36
Damoh	15	15	14	15	7	14	10	7
Datia	12	12	11	12	12	12	5	5
Dewas	20	20	20	20	15	13	17	13
Dhar	48	44	36	44	39	33	35	30
Dindori	22	22	22	22	15	15	19	12
Guna	17	16	15	17	12	14	14	11
Gwalior	34	33	29	33	24	25	30	18
Harda	6	6	2	6	1	1	3	1
Hoshangabad	16	16	14	16	13	14	15	11
Indore	39	39	36	39	28	35	34	25
Jabalpur	26	26	26	26	23	21	21	20
Jhabua	18	18	17	18	13	17	14	11
Katni	19	18	19	19	13	14	9	8
Khandwa	30	15	18	18	17	18	18	14
Khargone	56	44	40	47	30	34	32	23
Mandla	33	32	28	33	24	31	28	20
Mandsaur	38	32	34	38	26	22	30	20
Morena	18	17	18	18	13	14	14	9
Narsinghpur	19	18	18	19	13	15	14	11
Neemuch	19	17	18	19	17	16	17	13
Panna	15	11	13	14	9	12	12	6
Raisen	16	16	15	16	10	13	14	8
Rajgarh	27	27	25	27	23	17	24	17
Ratlam	24	23	22	24	19	19	20	17
Rewa	31	16	12	17	8	9	8	4
Sagar	34	28	28	30	24	26	24	18
Satna	44	38	33	38	22	19	17	11
Sehore	15	0	15	15	15	15	15	0
Seoni	30	30	22	30	12	19	11	9
Shahdol	30	29	29	30	29	28	21	20
Shajapur	14	14	13	14	12	13	11	10
Sheopur	10	9	10	10	8	9	9	7
Shivpuri	13	12	9	13	8	8	9	7
Sidhi	26	25	26	26	24	26	22	20
Singroli	13	13	12	13	7	12	10	6
Tikamgarh	20	14	13	15	13	12	12	11
Ujjain	24	23	21	24	21	21	21	20
Umaria	13	NR	NR	NR	NR	NR	NR	NR
Vidisha	24	24	19	24	16	20	15	13

District-wise number of PHCs functioning from own government building and providing treatment of specific cases shows that in Agar Malwa, Burhanpur have all the PHCs providing all the services related to treatment of specific cases followed by 93 percent PHCs in Alirajpur district (Table 11). Raisen, Morena, Damoh, Khandwa, Singroli, Katni, Datia, Khargone, Panna, Seoni, Satna, Harda and Rewa districts had less than half of the PHCs providing all the services for treatment of specific cases. In Sehore district none of the PHCs functioning from own government building is equipped to provide cataract surgery services. Balaghat and Umaria districts have not reported about availability of treatment of specific cases for any of the PHCs.

MCH and Family Planning Services: PHCs are expected to provide maternal and child care and family planning services. These services are essential for population living in remote and hard to reach areas. Figure 22 show that majority PHCs had availability of ANC and PNC services. However, availability of delivery services was reported only at 893 PHCs. In HMIS infrastructure reports availability of functional labour room at PHCs is required to be reported. It was found that 835 PHCs in rural area had reported about availability of functional labour room and delivery services, but 199 PHCs had a functional labour room but not providing delivery services. In 57 UPHCs delivery services were available where functional labour room was present. In 31 UPHCs functional labour room was not available but provisioning of delivery facility was reported in HMIS. This anomaly needs to be rectified by the respective DPMUs. These 31 UPHCs are UPHC Ashoka Garden (Bhopal), UPHC GulabiNagar Bagsewaniya (Bhopal), UPHC Ishan Nagar Berkheda Pathani (Bhopal), UPHC Khajurikala Anandnagar (Bhopal), UPHC Damoh (Damoh), UPHC Datia (Datia), Gov UPHC Falka Bazar (Gwalior), UPHC Harijan Basti Dullapur (Gwalior), UPHC Harijan Basti Gendewali Sadak (Gwalior), UPHC CD Gol Pahadiya (Gwalior), UPHC Gwaltoli (Hoshangabad), Gov UPHC Bhanwarkuan (Indore), UPHC Bhagirathpur (Indore), UPHC Sadar Bazar (Indore), UPHC Sudama Nagar (Indore), UPHC Suyash Vihar (Indore), UPHC Sanjay Nagar (Jabalpur), UPHC Snehnagar (Jabalpur), UPHC TILWARA (Jabalpur), UPHC Jhabua (Jhabua), UPHC Lakhera Katni (Katni), UPHC Indira Nagar (Khargone), UPHC Sukhpuri (Khargone), UPHC Biaora (Rajgarh), UPHC Jaora (Ratlam), UPHC Khurai (Sagar), UPHC Sheopur (Sheopur), UPHC Bherugarh (Ujjain), UPHC Mitranagar (Ujjain), UPHC Sironj (Vidisha), UPHC Karaiyakheda Vidisha (Vidisha).

Figure 22: Availability of MCH and family planning services at PHCs (having own govt building), HMIS, 2019-20, MP



Availability of MTP services was reported at only 389 PHCs in the state whereas family planning services was available at 1043 PHCs. Newborn care and Child immunization services were reported at 1114 and 1025 PHCs respectively. Collectively, only 363 PHCs had all the MCH and family planning services. A district level variation shows that in only Alirajpur and Shivpuri districts had more than three-fourth of PHCs having all the MCH and FP services. Katni, Neemuch, Bhind, Sheopur, Rewa, Burhanpur, Shajapur and Panna district had more than 90 percent of PHCs which are functioning from own government building but not providing full range of MCH and FP services (Table 12). In Singroli and Sehore none of the PHCs had all the MCH and family planning services available. In Shivpuri, Alirajpur, Hoshangabad, Harda, Jhabua, Ashok Nagar, Bhopal, Barwani, Dhar and Indore districts more than half of the PHCs has MTP services.

Table 12: District-wise number of PHCs having own government building and availability of MCH / Family Planning services, HMIS, 2019-20, MP

Districts	Total PHCs	ANC	Delivery	PNC	New Born Care	Child Care / Immunization	Family Planning	MTP	Mgmt RTI/STI	JSY	All
Agar Malwa	5	5	3	5	5	5	5	2	4	5	2
Alirajpur	15	15	14	15	15	14	14	12	14	15	12
Anuppur	18	18	15	18	17	18	17	9	15	18	9
Ashok Nagar	10	10	10	10	10	10	10	6	9	10	6
Balaghat	39	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
Barwani	28	28	25	28	28	27	28	15	19	28	15
Betul	33	33	23	33	33	33	33	11	26	33	11
Bhind	20	19	8	19	19	17	18	5	14	19	2
Bhopal	24	23	17	21	21	23	23	13	19	23	12
Burhanpur	13	13	13	13	13	13	13	1	9	13	1

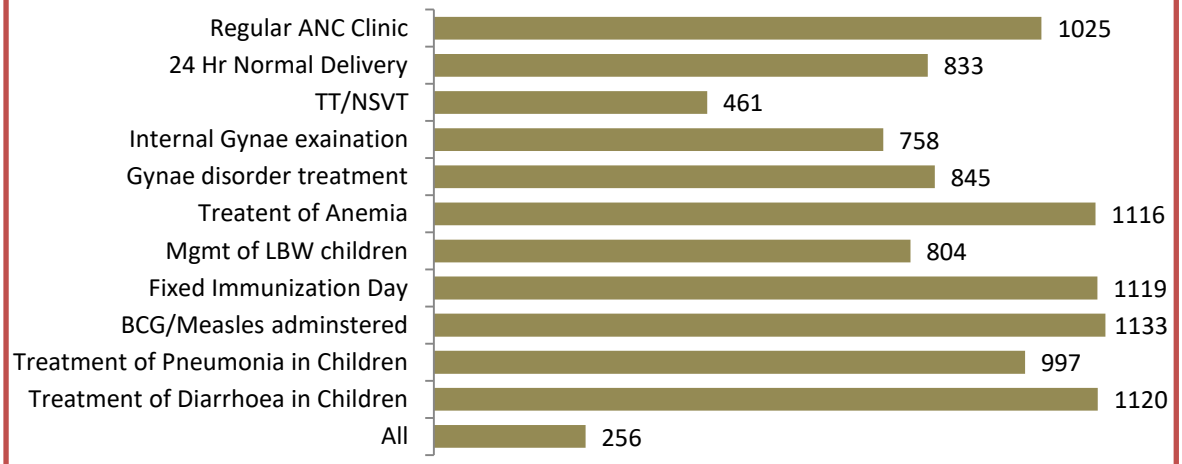
Districts	Total PHCs	ANC	Delivery	PNC	New Born Care	Child Care / Immunization	Family Planning	MTP	Mgmt RTI/STI	JSY	All
Chhatarpur	36	36	26	36	36	30	30	5	23	36	5
Chhindwada	67	66	44	66	66	53	55	11	44	66	10
Damoh	15	15	15	15	15	15	15	5	12	15	5
Datia	12	12	6	12	12	8	11	2	6	12	2
Dewas	20	20	19	20	20	19	19	7	16	20	7
Dhar	48	47	41	47	47	42	42	25	36	47	25
Dindori	22	22	21	22	22	22	22	8	17	22	8
Guna	17	17	15	17	17	16	15	4	9	16	4
Gwalior	34	33	26	33	33	31	32	17	29	33	16
Harda	6	6	4	6	6	4	4	4	4	6	4
Hoshangabad	16	16	16	16	16	16	16	11	14	16	11
Indore	39	39	27	39	37	38	38	20	32	39	19
Jabalpur	26	26	21	26	26	26	25	11	21	26	11
Jhabua	18	18	18	18	18	18	16	12	15	18	11
Katni	19	19	18	19	18	19	16	2	9	19	2
Khandwa	30	18	18	18	18	18	18	5	10	18	4
Khargone	56	47	35	47	47	44	43	23	38	45	20
Mandla	33	33	31	33	33	33	32	10	26	33	10
Mandsaur	38	36	24	36	36	30	36	9	27	36	8
Morena	18	18	9	17	17	16	18	4	14	17	4
Narsinghpur	19	19	17	19	19	19	19	5	19	19	5
Neemuch	19	18	14	18	18	13	13	2	10	17	2
Panna	15	14	13	14	14	14	14	2	7	14	1
Raisen	16	16	15	16	16	15	15	8	14	16	8
Rajgarh	27	27	15	27	27	18	24	5	16	27	4
Ratlam	24	24	19	24	24	22	23	3	17	24	3
Rewa	31	18	13	18	18	17	15	3	7	18	3
Sagar	34	30	24	29	28	25	25	16	23	30	15
Satna	44	38	24	38	38	29	34	9	23	38	9
Sehore	15	15	13	15	15	15	15	0	15	14	0
Seoni	30	30	29	30	30	29	28	4	15	30	4
Shahdol	30	30	28	29	29	30	26	14	28	30	12
Shajapur	14	14	9	14	14	10	13	3	9	14	1
Sheopur	10	9	8	9	9	9	10	1	9	10	1
Shivpuri	13	13	13	13	13	13	13	11	10	13	10
Sidhi	26	26	23	26	26	22	23	7	19	26	4
Singroli	13	13	9	13	13	8	9	1	10	13	0
Tikamgarh	20	14	12	14	14	13	13	9	12	14	9
Ujjain	24	24	16	24	24	23	24	7	19	24	7
Umaria	13	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
Vidisha	24	24	17	24	24	23	23	10	15	24	9

It may be mentioned that MTP services can only be provided by a trained medical officer. Since majority of the PHCs do not have trained medical officers crucial services on MTP were absent at those PHCs.

Specific Services: There are certain specific services which may or may not available on regular basis but should be available on specific days or as fixed day services. It is expected that all the services under this category should be available at PHC provided that all the required staff and infrastructure is available. It was found that apart from routine MCH and FP services treatment of specific illness among children and adults including treatment specific for pregnant women and women in general are available at most of the PHCs.

Services related to tubectomy and vasectomy was available in only 461 PHCs in Madhya Pradesh (Figure 23). Availability of any kind of surgeries requires functional operation theater. Though these PHCs are providing services for sterilization operations, but majority of them provide only female sterilization services.

Figure 23: Availability of specific services at PHCs (having own govt building), HMIS, 2019-20, MP



Treatment of gynaecological morbidity and internal gynaecological examination are a part of RCH services. These were available at only 845 and 758 PHCs in the state. It is to be mentioned that most of the PHCs do not have female medial officers and females in the community generally prefer to be examined by a female medical officers for any gynaecological complications or morbidity. Management of low birth weight children was available at 804 PHCs and availability of treatment of pneumonia among children was

reported by 997 PHCs. Only 256 PHCs in the state did have all the specific services available in 2019-20.

A district level variation in the availability of specific services at PHC shows that in Anuppur, Alirajpur, Sheopur, Jhabua and Shivpuri districts more than 70 percent of all the PHCs had full range of specific services. In Singroli, Mandsaur, Datia, Morena, Neemuch, Dindori, Katni, Burhanpur and Panna districts more than three-fourths of PHCs, which are functioning from own government building, lacks full range of specific services (Table 13a and 13b).

Table 13a: District-wise number of PHCs having own government building and availability of specific services, HMIS, 2019-20, MP

Districts	Total PHCs	Regular ANC Clinic	24 Hr Normal Delivery	TT/ NSVT	Internal Gynae examination	Gynae disorder treatment	Treatment of Anemia
Agar Malwa	5	4	2	2	4	5	5
Alirajpur	15	14	14	12	14	14	15
Anuppur	18	16	16	15	12	14	18
Ashok Nagar	10	10	9	3	8	8	10
Balaghat	39	NR	NR	NR	NR	NR	NR
Barwani	28	27	24	9	21	24	28
Betul	33	32	20	13	20	27	33
Bhind	20	17	8	8	12	14	19
Bhopal	24	23	17	11	16	20	21
Burhanpur	13	13	13	1	13	13	13
Chhatarpur	36	31	24	16	22	24	36
Chhindwada	67	58	44	19	42	46	65
Damoh	15	15	14	7	15	14	15
Datia	12	8	5	2	4	6	12
Dewas	20	19	19	6	15	17	20
Dhar	48	42	32	16	30	33	45
Dindori	22	20	19	3	17	17	22
Guna	17	15	14	6	13	12	17
Gwalior	34	30	26	18	25	27	33
Harda	6	3	2	0	2	2	6
Hoshangabad	16	16	15	8	14	12	16
Indore	39	38	27	18	29	36	39
Jabalpur	26	24	17	15	20	21	26
Jhabua	18	18	15	14	17	18	18
Katni	19	18	18	2	10	10	19
Khandwa	30	18	18	8	16	14	18
Khargone	56	45	29	15	26	36	44
Mandla	33	33	30	11	16	22	33

Districts	Total PHCs	Regular ANC Clinic	24 Hr Normal Delivery	TT/ NSVT	Internal Gynae examination	Gynae disorder treatment	Treatment of Anemia
Mandsaur	38	34	20	8	16	21	37
Morena	18	16	9	3	9	15	18
Narsinghpur	19	18	14	8	11	12	19
Neemuch	19	14	11	3	6	10	18
Panna	15	14	13	1	3	8	14
Raisen	16	14	15	11	14	15	16
Rajgarh	27	18	15	11	15	18	27
Ratlam	24	20	19	10	15	16	24
Rewa	31	15	11	8	11	13	18
Sagar	34	25	24	19	20	21	29
Satna	44	29	17	21	20	26	38
Sehore	15	15	13	0	15	15	15
Seoni	30	29	28	13	24	21	30
Shahdol	30	30	26	21	26	26	29
Shajapur	14	13	10	8	10	13	14
Sheopur	10	9	8	8	8	8	9
Shivpuri	13	13	13	10	10	12	13
Sidhi	26	24	22	14	21	23	26
Singroli	13	10	9	3	7	8	13
Tikamgarh	20	13	12	6	12	12	15
Ujjain	24	23	16	9	14	16	24
Umaria	13	NR	NR	NR	NR	NR	NR
Vidisha	24	22	17	8	18	19	24

Table 13b: District-wise number of PHCs having own government building and availability of specific services, HMIS, 2019-20, MP

Districts	Total PHCs	Mgmt of LBW children	Fixed Immunization Day	BCG/Measles administered	Treatment of Pneumonia in Children	Treatment of Diarrhoea in Children	All
Agar Malwa	5	4	5	5	5	5	2
Alirajpur	15	14	15	14	14	15	12
Anuppur	18	15	18	16	15	17	15
Ashok Nagar	10	9	10	10	10	10	3
Balaghat	39	NR	NR	NR	NR	NR	NR
Barwani	28	20	28	28	24	28	9
Betul	33	27	33	33	30	33	13
Bhind	20	12	20	17	19	20	8
Bhopal	24	14	21	21	19	21	11
Burhanpur	13	13	13	12	13	13	1
Chhatarpur	36	23	36	32	31	36	16
Chhindwada	67	40	65	55	54	66	19
Damoh	15	12	15	15	15	15	7
Datia	12	5	12	12	12	12	2

Districts	Total PHCs	Mgmt of LBW children	Fixed Immunization Day	BCG/Measles administered	Treatment of Pneumonia in Children	Treatment of Diarrhoea in Children	All
Dewas	20	17	20	19	19	20	6
Dhar	48	32	45	38	35	45	16
Dindori	22	14	22	18	18	22	3
Guna	17	16	17	15	15	17	6
Gwalior	34	24	33	31	27	33	18
Harda	6	2	6	2	1	6	0
Hoshangabad	16	14	16	14	16	16	8
Indore	39	26	39	38	39	39	18
Jabalpur	26	17	26	26	23	26	15
Jhabua	18	17	18	17	18	18	14
Katni	19	13	19	17	13	19	2
Khandwa	30	9	18	17	18	18	8
Khargone	56	34	47	45	41	46	15
Mandla	33	29	33	33	32	33	11
Mandsaur	38	18	37	31	33	38	8
Morena	18	11	17	16	15	18	3
Narsinghpur	19	17	19	17	19	19	8
Neemuch	19	6	17	13	12	18	3
Panna	15	10	14	14	13	13	1
Raisen	16	12	16	15	14	16	11
Rajgarh	27	13	27	17	21	27	11
Ratlam	24	19	24	22	20	24	10
Rewa	31	11	18	17	16	17	8
Sagar	34	22	30	23	25	30	19
Satna	44	29	38	33	32	38	21
Sehore	15	0	15	15	15	15	0
Seoni	30	28	30	28	29	30	13
Shahdol	30	29	30	30	30	30	21
Shajapur	14	9	14	10	11	14	8
Sheopur	10	9	10	8	10	9	8
Shivpuri	13	12	13	13	13	13	10
Sidhi	26	22	25	22	23	26	14
Singroli	13	8	13	6	11	13	3
Tikamgarh	20	12	14	13	14	15	6
Ujjain	24	17	24	22	22	24	9
Umaria	13	NR	NR	NR	NR	NR	NR
Vidisha	24	18	24	23	23	24	8

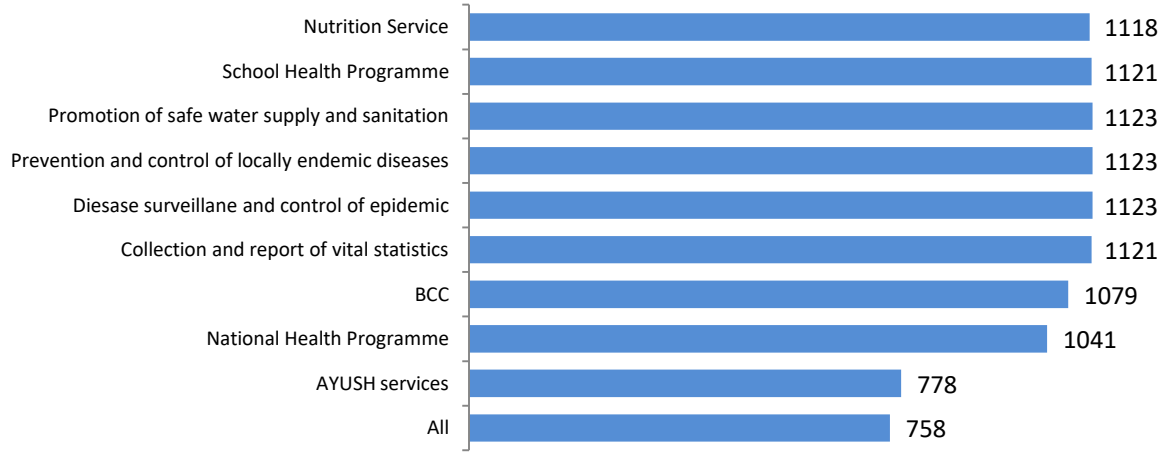
In Sehore and Harda districts none of the PHCs had full range of specific services. It is noted that in Burhanpur, Shahdol, Jhabua, Guna, Alirajpur, Seoni, Shivpuri, Ashok Nagar and Sheopur, which are among the backward districts, more than 90 percent of PHCs were providing services of management of low birth weight children which is very crucial for

lowering neonatal mortality among LBW children. In Rajgarh, Mandsaur, Datia, Rewa, Harda, Neemuch and Khandwa more than half of PHCs lack this service.

Other functions and services: PHCs are the backbone of health care services at the grassroots level and are the first port of call for any health care services. Preventive and promotive services are essential part of the health services available at PHC. most of the health education and behavior change communication strategies could be easily implemented if PHCs could also function as centre for health awareness and provide supportive services for community level health education programme. PHCs role as health education centre is widely recognized and accessible for community. It was found that of all the PHCs which have own building and other necessary infrastructure also provide services related to nutrition, school health programme, reporting and controlling disease outbreak.

More than 1100 PHCs had reported services related to health care education and BCC for the community (Figure 24). Nutrition services were available at 1118 PHCs.

Figure 24: Other functions and services performed at PHCs (having own govt building), HMIS, 2019-20, MP



It may by mentioned that in Madhya Pradesh nutrition rehabilitation centres are established at all block level and at few PHCs. PHCs need to provide nutrition services by conducting survey of malnourished children and identifying anaemic mothers. PHCs are also responsible for follow-up services to the children discharged from NRCs. Apart from disease control, registration of vital events, few PHCs were providing AYUSH services. Full range of these community oriented services was available at only 758 PHCs.

Table 14a: District-wise number of PHCs having own government building and other functions and services, HMIS, 2019-20, MP

Districts	Total PHCs	Nutrition Service	School Health Programme	Promotion of safe water supply and sanitation	Prevention / control of locally endemic diseases	Disease surveillance / epidemic control
Agar Malwa	5	5	5	5	5	5
Alirajpur	15	15	15	15	15	15
Anuppur	18	18	18	17	17	18
Ashok Nagar	10	10	10	10	10	10
Balaghat	39	NR	NR	NR	NR	NR
Barwani	28	28	28	28	28	28
Betul	33	33	33	33	33	33
Bhind	20	19	20	20	20	20
Bhopal	24	21	21	21	21	21
Burhanpur	13	13	13	13	13	13
Chhatarpur	36	36	36	36	36	36
Chhindwada	67	66	66	66	66	66
Damoh	15	15	15	15	15	15
Datia	12	12	12	12	12	12
Dewas	20	20	20	20	20	20
Dhar	48	45	45	45	45	45
Dindori	22	22	22	22	22	22
Guna	17	17	17	17	17	17
Gwalior	34	33	33	33	33	33
Harda	6	6	6	6	6	6
Hoshangabad	16	16	16	16	16	16
Indore	39	39	39	39	39	39
Jabalpur	26	26	26	26	26	26
Jhabua	18	18	18	18	18	18
Katni	19	18	18	19	19	19
Khandwa	30	18	18	18	18	18
Khargone	56	47	47	47	47	47
Mandla	33	33	33	33	33	33
Mandsaur	38	35	36	38	38	37
Morena	18	17	18	17	18	18
Narsinghpur	19	19	19	19	19	19
Neemuch	19	18	18	18	18	18
Panna	15	14	14	14	14	14
Raisen	16	16	16	16	16	16
Rajgarh	27	27	27	27	27	27
Ratlam	24	24	24	24	24	24
Rewa	31	18	18	18	18	18
Sagar	34	30	30	30	30	30
Satna	44	38	38	38	38	38
Sehore	15	15	15	15	15	15

Districts	Total PHCs	Nutrition Service	School Health Programme	Promotion of safe water supply and sanitation	Prevention / control of locally endemic diseases	Disease surveillance / epidemic control
Seoni	30	30	30	30	30	30
Shahdol	30	30	30	30	30	30
Shajapur	14	14	14	14	14	14
Sheopur	10	9	9	10	9	9
Shivpuri	13	13	13	13	13	13
Sidhi	26	26	26	26	26	26
Singroli	13	13	13	13	13	13
Tikamgarh	20	15	15	15	15	15
Ujjain	24	24	24	24	24	24
Umaria	13	NR	NR	NR	NR	NR
Vidisha	24	24	24	24	24	24

Table 14b: District-wise number of PHCs having own government building and other functions and services, HMIS, 2019-20, MP

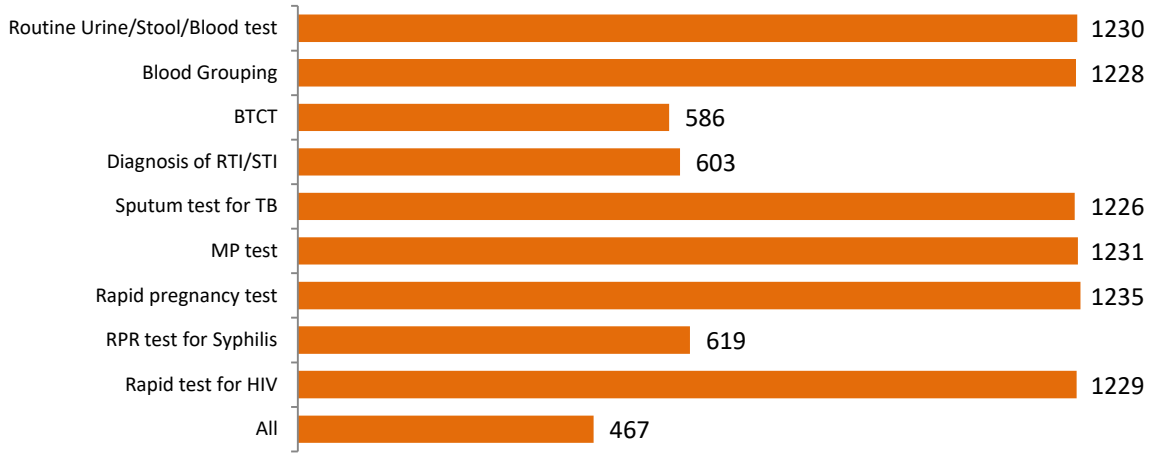
Districts	Total PHCs	Collection / report of vital statistics	Behaviour Change Communication	National Health Programme	AYUSH services	All
Agar Malwa	5	5	5	5	2	2
Alirajpur	15	15	14	14	14	14
Anuppur	18	18	18	18	14	14
Ashok Nagar	10	10	10	9	6	6
Balaghat	39	NR	NR	NR	NR	NR
Barwani	28	28	28	27	22	22
Betul	33	33	33	33	28	28
Bhind	20	20	20	20	15	15
Bhopal	24	21	21	21	17	17
Burhanpur	13	13	13	13	13	13
Chhatarpur	36	36	33	34	23	23
Chhindwada	67	66	61	57	42	41
Damoh	15	15	15	15	9	9
Datia	12	12	12	12	3	3
Dewas	20	20	20	19	15	15
Dhar	48	45	42	39	35	31
Dindori	22	22	21	21	7	7
Guna	17	17	15	14	9	9
Gwalior	34	33	32	32	26	26
Harda	6	6	2	3	2	1
Hoshangabad	16	16	16	16	16	16
Indore	39	39	39	38	37	36
Jabalpur	26	26	26	23	19	16
Jhabua	18	18	18	18	16	16
Katni	19	18	18	18	10	10
Khandwa	30	18	18	18	14	14

Districts	Total PHCs	Collection / report of vital statistics	Behaviour Change Communication	National Health Programme	AYUSH services	All
Khargone	56	47	46	46	35	35
Mandla	33	33	33	31	22	22
Mandsaur	38	35	37	33	15	13
Morena	18	18	17	16	10	10
Narsinghpur	19	19	19	19	16	16
Neemuch	19	18	16	12	8	8
Panna	15	14	13	13	5	4
Raisen	16	16	14	13	14	12
Rajgarh	27	27	25	23	19	17
Ratlam	24	24	23	23	16	16
Rewa	31	18	17	17	15	15
Sagar	34	30	27	24	23	22
Satna	44	38	34	34	19	17
Sehore	15	15	15	15	7	7
Seoni	30	30	29	28	21	21
Shahdol	30	30	30	30	27	27
Shajapur	14	14	14	13	8	8
Sheopur	10	10	9	8	8	8
Shivpuri	13	13	13	13	11	11
Sidhi	26	26	26	26	20	20
Singroli	13	13	11	8	1	1
Tikamgarh	20	15	14	14	13	13
Ujjain	24	24	24	24	11	11
Umaria	13	NR	NR	NR	NR	NR
Vidisha	24	24	23	21	20	20

It was found that in 18 districts more than three-fourths of PHCs had been performing all the functions as mentioned in Table 14a and 14b. In Dindori, Datia, Panna, Harda and Singroli districts less than one-third of PHCs had all the support services. It was noted that Rewa, Khandwa, Sehore, Ujjain, Satna, Neemuch, Agar Malwa, Mandsaur, Panna, Harda, Dindori, Datia and Singroli districts had less than half of PHCs were having AYUSH services. Reporting and collection of vital statistics was universally done by majority of PHCs in all the districts except PHCs in Rewa district. Similarly services under school health programmes were also provided by majority PHCs. In fact all the PHCs in 34 distircts provided services for school health programmes and collection and reporting of vital statistics.

Essential Laboratory Services: It is assumed that majority of morbidity and disease conditions, including treatment of minor ailments can be provided at PHCs. In the light of Ayushman Bharat programme, all the PHCs are being upgraded as health and wellness centres. For equipping PHCs as HWCs availability of essential laboratory services is the key. In HMIS infrastructure data availability of laboratory services is reported. For 2019-20, it was found that 467 PHCs had all the listed laboratory tests and services available (Figure 25.)

Figure 25: Availability of essential laboratory services at PHCs (having own govt building), HMIS, 2019-20, MP



Except for bleeding time/clotting time (586), diagnosis for RTI/STI (603) and RPR test for syphilis (619) all other laboratory services were available at twice as many PHCs as that of these three services. It is necessary to understand that functional laboratory and trained lab technician is pre-requisite for availability of essential laboratory services, besides necessary equipments, consumable and support staffs. PHCs in Madhya Pradesh have huge paucity of lab technicians. Therefore, reporting of availability of essential laboratory services need utmost caution. For HWC services, laboratory need to perform even more tests. This data need thorough scrutiny before drawing any conclusion.

At district level, variation was observed in number of PHCs having various essential laboratory services. Except Alirajpur none of the districts had all the PHCs having all essential laboratory services available. In Alirajpur all 15 PHCs had reported to have all essential laboratory services. A cross-check with the availability of lab technician at the PHCs reveals that 13 PHCs have lab technician posted.

Table 15a: District-wise number of PHCs having own government building and available essential laboratory services, HMIS, 2019-20, MP

Districts	Total PHCs	Routine Urine, Stool, Blood test	Blood Grouping	BTCT	Diagnosis of RTI/STI	Sputum test for TB
Agar Malwa	5	5	5	2	2	5
Alirajpur	15	15	15	15	15	15
Anuppur	18	18	18	10	10	18
Ashok Nagar	10	10	10	3	6	10
Balaghat	39	39	39	13	14	39
Barwani	28	28	28	14	15	28
Betul	33	33	33	12	15	33
Bhind	20	20	20	10	10	20
Bhopal	24	23	23	14	14	23
Burhanpur	13	13	13	0	1	13
Chhatarpur	36	36	36	9	10	36
Chhindwada	67	67	67	23	28	67
Damoh	15	15	15	7	8	15
Datia	12	12	12	4	5	12
Dewas	20	20	20	11	13	20
Dhar	48	48	48	31	27	48
Dindori	22	22	22	12	9	22
Guna	17	17	17	12	11	17
Gwalior	34	34	34	19	20	34
Harda	6	6	6	2	2	6
Hoshangabad	16	16	16	15	15	16
Indore	39	38	38	22	22	37
Jabalpur	26	26	26	18	14	26
Jhabua	18	18	18	11	11	18
Katni	19	19	19	12	11	19
Khandwa	30	30	30	8	11	30
Khargone	56	56	56	24	30	56
Mandla	33	33	33	10	14	33
Mandsaur	38	36	36	20	19	36
Morena	18	18	18	7	4	18
Narsinghpur	19	19	19	8	11	19
Neemuch	19	19	19	6	7	19
Panna	15	13	13	6	4	12
Raisen	16	16	16	12	11	16
Rajgarh	27	27	27	9	6	27
Ratlam	24	24	24	5	6	24
Rewa	31	31	31	11	10	31
Sagar	34	34	34	20	22	34
Satna	44	44	44	17	18	44
Sehore	15	15	13	0	1	14
Seoni	30	30	30	11	13	30

Districts	Total PHCs	Routine Urine, Stool, Blood test	Blood Grouping	BTCT	Diagnosis of RTI/STI	Sputum test for TB
Shahdol	30	30	30	22	21	30
Shajapur	14	14	14	8	8	14
Sheopur	10	10	10	4	3	10
Shivpuri	13	13	13	9	9	13
Sidhi	26	26	26	16	15	26
Singroli	13	13	13	7	8	13
Tikamgarh	20	20	20	12	10	20
Ujjain	24	24	24	10	10	23
Umaria	13	13	13	11	12	13
Vidisha	24	24	24	12	12	24

Table 15b: District-wise number of PHCs having own government building and available essential laboratory services, HMIS, 2019-20, MP

Districts	Total PHCs	MP test for Malaria	Rapid pregnancy test	RPR test for Syphilis	Rapid test for HIV	All
Agar Malwa	5	5	5	2	5	2
Alirajpur	15	15	15	15	15	15
Anuppur	18	18	18	13	18	10
Ashok Nagar	10	10	10	4	10	3
Balaghat	39	39	39	11	39	8
Barwani	28	28	28	15	28	14
Betul	33	33	33	14	33	12
Bhind	20	20	20	10	20	10
Bhopal	24	23	24	14	24	11
Burhanpur	13	13	13	5	13	0
Chhatarpur	36	36	36	11	36	6
Chhindwada	67	67	67	18	67	17
Damoh	15	15	15	7	15	4
Datia	12	12	12	4	12	3
Dewas	20	20	20	7	20	6
Dhar	48	48	48	30	48	25
Dindori	22	22	22	10	22	8
Guna	17	17	17	15	17	11
Gwalior	34	34	34	24	34	18
Harda	6	6	6	2	6	2
Hoshangabad	16	16	16	10	16	10
Indore	39	39	39	20	38	18
Jabalpur	26	26	26	14	26	13
Jhabua	18	18	18	11	18	11
Katni	19	19	19	8	19	8
Khandwa	30	30	30	27	30	8
Khargone	56	56	56	26	56	18

Districts	Total PHCs	MP test for Malaria	Rapid pregnancy test	RPR test for Syphilis	Rapid test for HIV	All
Mandla	33	33	33	11	33	9
Mandsaur	38	36	37	19	37	16
Morena	18	18	18	10	18	4
Narsinghpur	19	19	19	11	19	8
Neemuch	19	19	19	7	19	4
Panna	15	13	15	5	14	1
Raisen	16	16	16	10	16	8
Rajgarh	27	27	27	4	27	3
Ratlam	24	24	24	7	24	3
Rewa	31	31	31	9	31	8
Sagar	34	34	34	18	34	16
Satna	44	44	44	21	44	13
Sehore	15	15	15	11	13	0
Seoni	30	30	30	14	30	9
Shahdol	30	30	30	21	30	20
Shajapur	14	14	14	6	14	6
Sheopur	10	10	10	2	10	1
Shivpuri	13	13	13	8	13	8
Sidhi	26	26	26	20	26	12
Singroli	13	13	13	10	13	7
Tikamgarh	20	20	20	14	20	10
Ujjain	24	24	24	12	22	10
Umaria	13	13	13	11	13	10
Vidisha	24	24	24	11	24	10

None of the PHCs in Burhanpur and Sehore had BTCT test available in the laboratory, though it comes under essential laboratory services. It was found that more than 50 percent of PHCs in 38 districts had no provision of all essential laboratory services. Majority PHCs had no services for BTCT and diagnosis for RTI/STI and RPR test for syphilis. It was noted that Chhatarpur, Ratlam, Rajgarh, Sheopur and Panna districts less than one-fifths of PHCs had all essential laboratory services leaving a huge gap laboratory services at PHCs. Similarly 26 districts had less than half of the PHCs having all essential laboratory services. It was found that blood smear test for malaria parasite, test of HIV and facility for sputum test for TB were universally available in all the PHCs in all the districts barring Bhopal, Indore, Mandsaur, Ujjain, Panna and Sehore districts where few PHCs did not have these services.

10. Summary and Conclusion

This study aimed at presenting a detailed analysis of primary health centre infrastructure available in India and a micro level analysis of PHCs in Madhya Pradesh based on annual infrastructure data reported under HMIS for 2017-18, 2018-19 and 2019-20. The HMIS annual infrastructure data provides detailed information at facility level for each PHC in public health care system.

This report analyzed different aspects of growth, distribution, coverage and functionality of PHCs at state level in India and at district level for Madhya Pradesh. Following are the key observation from the available and reported data.

- There was an addition of 2656 new PHCs in the public health system between 2011-12 and 2019-20. In 2011-12 there were 27745 PHCs in India which increased to 30401 in 2019-20.
- More than 75 percent of new PHCs were added in eight states (Uttar Pradesh, West Bengal, Gujarat, Karnataka, Maharashtra, Tamil Nadu, Bihar and Himachal Pradesh. Uttar Pradesh has added highest number of new PHCs (603) followed by West Bengal (447) and Gujarat (274).
- A decline in number of PHCs was observed in Haryana (81) and Assam (49) since 2011-12. This was due to wrong mapping of mini-PHCs as full-fledged PHCs in both the states and after rectification the number of PHCs was reduced.
- During 2011-12 to 2019-20, 508 PHCs were reduced in 113 districts across 23 states. In 125 districts there was no change in number of PHCs during this period.
- During 2011-12 and 2019-20, 13 districts in four states namely – Delhi (4 districts), Karnataka (1 district), Uttar Pradesh (6 districts) and West Bengal (2 district). have added 50 PHCs in each of the districts. In other words, 36.4 percent of all the newly added PHCs across districts have come from only 13 districts.
- HMIS facility master data show that out of 30398 PHC mapped in HMIS facility master 24655 were in rural areas and 5743 were urban PHCs.
- Considering the rural population in 2011 census, on average each PHC caters to rural population of 33805 persons. Sufficient rural PHCs are available in 16 states, where on average PHC covers 25000 or less population.
- Kerala and Punjab have almost equal rural population of 1.73 Crore, however, Kerala has twice the number of PHCs than that of Punjab in rural areas.
- Information about urban PHCs serving urban slums is not provided for more than half (54.2 percent) of the urban PHCs. There are 2418 (42 percent) urban PHC that are reported as serving urban slums.
- At national level one-fourth of all the PHCs are in difficult areas and rest in plain areas. There were 28 percent rural PHCs and 11 percent urban PHCs were in difficult areas. At

national level, 28.18 percent of all rural PHCs and 11.02 percent of all urban PHCs are in difficult areas.

- Out of total 30398 active, physical and public PHCs, about two-thirds have prescribed number of beds i.e. 4 or more beds. For nearly one-third of PHCs bed strength was either not reported or reported as 'zero'.
- Maharashtra has highest number of beds (14986) among all the states available at PHCs. In Mizoram and Sikkim all the PHCs have more than 6 beds. In Odisha 90 percent of PHCs have no beds.
- It is noted that three-fourths of all PHC beds are concentrated in just 10 states – Maharashtra (11.6%), Karnataka (11.5%), Uttar Pradesh (10.7%), Rajasthan (9.0%), Gujarat (6.7%), Madhya Pradesh (6.7%), Tamil Nadu (6.7%), Andhra Pradesh (5.6%), Chhattisgarh (3.4%) and Kerala (3.4%).
- Large district level variation in population coverage of PCHs was observed, highest average population covered by a rural PHC was 49817 in Singrauli district and lowest was 6844 in Alirajpur in 2019-20. There were 35 rural and 49 urban PHC that have reported zero population coverage in 2019-20.
- In 2019-20 maximum coverage area of 15000 km^2 was reported by PHC Jhaknawda of Petlawad block in Jhabua district. As many as 55 rural PHCs had reported coverage area as 0 km^2.
- Average distance of PHC from district hospital is farthest in Dewas - 97 kms. and shortest in Harda district at 24 kms. For Madhya Pradesh state as a whole, average distance of a PHC from its farthest village is 15 kms., from CHC it is 22 kms. and from DH it is 49 kms.
- Out of 1377 PHCs, 1141 rural and 95 UPHCs were functioning from own government building, 37 from rent free building, 97 from rented premises and 14 PHCs did not report about ownership of building in 2019-20.
- In Madhya Pradesh 32 PHCs (Rural: 27 & UPHC: 5) having government building reported area of building less than 100 m^2 or about 1000 ft^2. Kohani Dewri and Manikapur PHCs in Dindori district have largest building area of 11000 m^2.
- Systematic increase in the number of PHCs in rural area with all over boundary wall/fencing observed. There is an increase from 495 PHCs in 2017-18 to 553 in the year 2019-20 that have all-over boundary wall/fencing.
- In Agar Malwa and Shahdol all the rural PHCs have all-round boundary wall. One-fourth of all the rural PHCs do not have boundary wall at all.
- In 15 districts - Seoni, Damoh, Chhatarpur, Jabalpur, Katni, Burhanpur, Dindori, Panna, Harda, Alirajpur, Guna, Neemuch, Sidhi, Agar Malwa, Jhabua, Shahdol more than half of the PHCs buildings are in over all good condition.
- Only 168 rural PHCs and 5 UPHCs have all basic amenities including electricity in all parts, laundry, sewerage system, waste disposal mechanism and source of water.
- All essential amenities such means of communication (telephone, computer and email), infrastructure for administrative set-up of PHC and residential facilities for the staff was

available in 246 rural and 54 urban PHCs in the state in 2019-20. This has increased from 89 rural and 1 urban PHC in 2017-18.

- In Madhya Pradesh 469 rural PHCs have all three types of residential quarters for Medical officer, staff nurse and other staff. Shahdol has 24 out of 29 and Balaghat has 22 out of 38 PHCs which have residential quarters for all cadre.
- Number of rural PHCs which had all three services infrastructures i.e. operation theater, labour room and laboratory, increased from 209 in 2017-18 to 317 in 2019-20 and for UPHCs this increment was from 2 UPHCs to 53 UPHCs in the same duration.
- In Sehore, Tikamgarh, Sheopur, Shivpuri, Gwalior, Datia and Jhabua districts more than half of the PHCs have all the three essential services infrastructure i.e. OT, LR and Lab.
- In Madhya Pradesh only 850 PHCs have all sanctioned post of medical officer filled, 790 PHCs have all posts of pharmacist filled, 757 PHCs have all posts of staff nurse filled and 346 PHCs have all posts of lab technician filled. In Agar Malwa and Bhopal districts all the PHCs had all the sanctioned posts of MOs and Pharmacists in-position.
- In only 146 rural PHCs covering 45 districts at least one position of medical officers, pharmacist, staff nurse and lab technician are filled.
- Out of 1179 rural PHCs 825 PHCs had all four assured services (OPD, IPD, emergency and referral) available. Similarly, out of 194 urban PHCs 53 had all four assured services.
- In Burhanpur, Dewas, Sidhi, Shahdol, Katni, Hoshangabad, Alirajpur, Damoh, Seoni, Dindori and Ashok Nagar, more than 90 percent of PHCs, functioning from own government buildings, had all the assured services available. In Balaghat and Umaria districts none of the PHCs in rural and urban areas had reported about availability of assured services except referral service.
- Services related to the treatment all specifics cases was available in 615 rural PHCs and 57 urban PHCs which are functioning from own government building.
- In Agar Malwa and Burhanpur all the PHCs were providing all the services related to treatment of specific cases followed by 93 percent PHCs in Alirajpur district.
- In rural area 835 PHCs had labour room and providing delivery services, but 199 PHCs had a labour room but not providing delivery services. In 57 UPHCs delivery services were available where functional labour room was present.
- In Burhanpur, Shahdol, Jhabua, Guna, Alirajpur, Seoni, Shivpuri, Ashok Nagar and Sheopur, which are among the backward districts, more than 90 percent of PHCs were providing services of management of low birth weight children.
- Full range of community oriented services related to nutrition, school health programme, reporting and controlling disease outbreak was available at only 758 PHCs.
- In Rewa, Khandwa, Sehore, Ujjain, Satna, Neemuch, Agar Malwa, Mandsaur, Panna, Harda, Dindori, Datia and Singroli districts less than half of PHCs were having AYUSH services.
- For 2019-20, 467 PHCs functioning from own government building had all the listed essential laboratory tests and services available.

- Except Alirajpur none of the districts had all the PHCs having all essential laboratory services available. In Alirajpur all 15 PHCs had reported to have all essential laboratory services.
- None of the PHCs in Burhanpur and Sehore had BTCT test available in the laboratory, though it comes under essential laboratory services.

Suggestions: Study highlights steps to be taken urgently for improving the reporting and utilizing infrastructure data for planning purpose.

- HMIS data has revealed that most of the PHCs do not provide all essential infrastructure data which requires urgent attention from state and district data managers, facility level programme managers and in-charge block medical officers.
- All the programme managers, data officers at district and block level should be given periodic orientation regarding reporting of infrastructure data.
- Status of reported infrastructure data in the immediate preceding year should be taken as basis for updation of infrastructure data in HMIS after due verification.
- Validation checks need to be introduced in reporting of HMIS facility infrastructure data to prevent absurd data reporting.
- Data dictionary / manual should be provided with facility infrastructure formats. It will minimise reporting errors and enhance quality of reported data.
- Gaps in infrastructure data reporting should be minimized to assess the adequacy of services being rendered at the PHCs and its actual functional status.
- Proper documentation of available infrastructure at PHCs and its verification is essential because these are the assets for the districts and most of the health planning must be based on the available resources.
- The study has revealed that improvement in reporting in HMIS infrastructure data observed in 2019-20 would also help in mapping of PHCs for prioritizing upgradation as health and wellness centre.
- State must ensure that establishment HWCs based on the gap analysis is supported by HMIS infrastructure data.