



World Health
Organization



Health Labour
Market Analysis:
CHHATTISGARH

Jointly prepared by

WHO and State Health Resource Centre, Chhattisgarh
for the
Department of Health and Family Welfare, Chhattisgarh

September 2019



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District Hospital	Dr Ravi Tiwari – Civil Surgeon Dr Rajesh Sharma – Government's interface with IMA
Community Health Centre, Abhanpur	Dr A Jha – Block Medical Officer
Health & Wellness Centre	Dr Bharati Sahu – AMO, HWC, Ganaud
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Abbreviations and acronyms

AMO	assistant medical officer
ANM	auxiliary nurse midwife
AMO	assistant medical officer
ASHA	accredited social health activist
CHC	community health centre
CHO	community health officer
CHW	community health worker
CPHC	comprehensive primary health care
CRMC	Chhattisgarh Rural Medical Corps
DH	district hospital
DHS	Directorate of Health Services
DME	Directorate of Medical Education
DoHFW	Directorate of Health and Family Welfare
GHE	government health expenditure
GNM	general nurse midwife
GSDP	Gross State Domestic Product
HLM	health labour market
HLMA	health labour market analysis
HR	human resources
HRH	human resources for health
HW	health worker
HWC	health and wellness centre
IGNOU	Indira Gandhi National Open University
MCI	Medical Council of India
MLHP	Mid-Level Healthcare Provider'

MO	Medical officer
MoHFW	Ministry of Health & Family Welfare
MPHW	multipurpose health worker
NCD	noncommunicable disease
NHM	National Health Mission
NPA	non-practising allowance
NRHM	National Rural Health Mission
NSSO	National Sample Survey Organization
NUHM	National Urban Health Mission
OOPE	out-of-pocket expenditure
PG	postgraduate
PHC	primary health centre
PSC	Public Service Commission
RCH	reproductive and child health
RMA	rural medical assistant
SHC	sub-health centre
SN	staff nurse
SNCU	special newborn care unit
ST	scheduled tribe
THE	total health expenditure
TWG	Technical Working Group
UHC	universal health coverage
WHO	World Health Organization

Executive summary

The scope of this health labour market analysis was to provide a detailed examination of the state of the health labour market in Chhattisgarh in order to provide an insight into key human resources for health and the bottlenecks and opportunities in the State. The report focused on Medical Officers, specialist doctors, nurses and the roll-out of health and wellness centres.

This analysis was conducted using data made available from the Department of Health. The macroeconomic situation, production, absorption capacity and distribution aspects were analysed, with the main focus of this study centred around key policy questions. Based on the results of the analysis, nine main issues related to the policy questions were highlighted and recommendations and policy options were proposed.

These recommendations, which are specific to the context of Chhattisgarh, are based on information and data gathered for this report. They are summarized in the table below.

Issue	Recommendation	Policy options
MOs and specialist doctors		
Unmet need for specialty care Shortage of specialists in DHs and CHCs	Promote diploma/alternative short training courses and task-shifting	<ul style="list-style-type: none"> ❖ Introducing task-shifting from specialists to MOs in DHs and CHCs ❖ MOs (without PG qualification) to be trained in essential surgeries, diagnosis and treatment of common diseases of secondary-level care and given permission and incentives to perform these procedures ❖ Restart Family Medicine PG diploma course and recognize it as specialization under DHS ❖ Start other multi-skilling courses ❖ Adopt the NHM flexible norms for engaging visiting specialists for fixed days or surgeries ❖ Greater use of existing mechanisms like DNB
High vacancy rates of MOs and specialists, especially in rural and remote areas	Improve recruitment process	<ul style="list-style-type: none"> ❖ Direct recruitments of specialists in regular appointments of DHS by modifying selection rules ❖ Regular recruitment drives (at least one annually) ❖ Campus selection (in and out of the State) ❖ Interaction with medical students in the State during internship ❖ Better deployment strategy for and PGs on bond ❖ Transparent deployment (allocation of locations of posting) according to merit ❖ Facilitate recruitment of regular posts from outside the State by introducing flexibility in the selection process

	Improve supportive services and other benefits to improve retention in remote areas	<ul style="list-style-type: none"> ❖ Facilitate enrolment of rural students ❖ Improve financial and non-financial incentives in less desirable locations. Provide free hostel accommodation, transport, etc. ❖ Ensure career pathway is improved by serving in rural and remote areas by the following: <ul style="list-style-type: none"> o points in PG entrance for MOs serving in tribal areas o sponsor MOs in rural, remote and tribal areas to attend special PG family medicine courses (post MBBS) o time-bound transfer option for doctors posted in tribal areas o compulsory posting (around 20% part of career) in tribal areas for every regular MO/specialist o making at least 3-year service in tribal areas compulsory for promotions
AMOs		
Lack of coherent administration procedures for AMOs	Improve administration of AMOs	<ul style="list-style-type: none"> ❖ Introducing policy to facilitate transitioning from contractual to regular AMO ❖ Creating an attractive career pathway for this cadre
	Improve capacity of AMOs	<ul style="list-style-type: none"> ❖ Invest further in their skills
Nurses		
Inefficiencies in recruitment process	Develop a more effective and transparent recruitment process	<ul style="list-style-type: none"> ❖ Developing fast-track time-bound recruitment policies to fill vacancies (simplify procedures, reinforce administrative capacity, have better coordination between Department of Health and Ministry of Finance, make the recruitment and deployment more transparent, etc.) ❖ Focus on DME, which has very high regular nurses vacancies ❖ Have a regular annual recruitment drive. This will allow a better match between demand and supply ❖ Proactively identify unemployed nurses and retrain/train them, including for the roll-out of the health and wellness centres ❖ Prioritize recruitment of nurses who have been trained through government-sponsored schemes

Concern for quality standards in education and training	Improve accreditation and quality control mechanisms for all educational institutions	❖ Strengthen regulation to improve quality of education in private nursing schools in preference to quantity
Excess production of nurses leading to poor remuneration and unemployment		❖ Decide seats in the private sector based on market availability and demand for nurses ❖ Start nurse mentoring programmes
High salary difference between contractual and regular nurses	Reduce the salary gap between contractual and regular nurses	❖ Increase the salary of contractual nurses ❖ Give extra points for experience in contractual jobs when recruiting for regular posts ❖ Convert contractual nurses to regular cadre after a minimum length of service
Workforce elements to consider for health and wellness centres (HWCs)		
Education and training	❖ Ensuring quality in training of MLHPs, their continuous skill building on the job and mentoring	
Roles and responsibilities	<ul style="list-style-type: none"> ❖ Clarify role of HWCs, and thereby MLHPs, in curative care, i.e. the approach should be “resolve more and refer some” and not mainly referral based ❖ Ensure two ANMs per HWC, completing recruitments of sanctioned posts of second ANM ❖ Team-building of HWC workforce ❖ Dovetail roles between AMOs and nurse MLHPs ❖ Equitable incentives for ANMs and staff other than MLHPs ❖ Redefine the role of male MPWs, to align with the required functions in HWCs 	

DHS – Directorate of Health Services; DNB – Diplomat of National Board; NHM – National Health Mission; NPA – non-practising allowance; DME – Director AMO – assistant medical officer; DME – Directorate of Medical Education; MLHP – Mid-Level Healthcare Provider; HWC – health and wellness centre; ANM – auxiliary nurse midwife; MPHWH – multipurpose health

A set of action points were derived based on discussions on the health market labour analysis (HLMA) results with the Department of Health. It was further recommended to set up a Technical Working Group (TWG) to periodically review the progress on the above recommendations.

Chapter 1: Introduction

1.1 Background

Chhattisgarh is a relatively young state in India. It was carved out of Madhya Pradesh in 2000 and is currently one of the poorest states in India. Chhattisgarh ranked among the bottom three out of 29 states in India in terms of consumption expenditure in 2011–2012 (1). The area covered by the State was the most neglected part of Madhya Pradesh. As such, it inherited a rather underdeveloped health system and large deficiencies in trained human resources for health (HRH) and infrastructure. The State has a population of around 280 million (2019 figures) and has 27 districts, divided into five administrative regions called divisions. Chhattisgarh is primarily an agrarian, rural state, with 77% of its population living in rural areas. Scheduled tribes (STs), a vulnerable group, make up 31% of Chhattisgarh's population – almost fourfold the national average of 8% (2). The State has two kinds of geographies – a central plains region with high population density and an undulating plateau around its periphery. The Surguja region in the north and Bastar region in the south form the main tribal regions. The tribal regions pose multiple challenges in delivering health care and other services – difficult geography, poor infrastructure and high levels of underdevelopment and poverty.

The State has an unemployment rate of 8.1% (June 2019 figures), similar to the national average of 7.9% (3). The labour participation rate for women in Chhattisgarh is 39.7%, compared to 55.6% for men (4). The female labour participation rate of the State is however higher than the national average of 25.5% (4). Most of the workforce in rural areas is employed in the informal sector, with only 2% of women and 5% of men having a regular wage (4). In the urban workforce, 36% of women and 36% of men workers have a regular wage (4). While the State started almost at the bottom amongst Indian states, it has made significant progress in its development indicators over the two decades since its formation. The health indices have improved substantially, especially in reproductive and child health (RCH) and in controlling some communicable diseases. Indicators for gender equity have improved with increases in female literacy, school-attainment and reduction in underage marriage of girls. Other social determinants of health, like nutrition, have also registered improvement. The rate of improvement has been very encouraging in indicators like women's body mass index, child stunting and underweight rates, under-5 and infant mortality rates, maternal mortality ratio (MMR), antenatal care (ANC) coverage, full immunization, etc. Nevertheless, the mortality indicators for the State are still poor (5).

The progress made also represents the narrow or selective focus of care that the government has provided. The government services, including the budgets and human resources (HR) were highly focused on providing preventive and basic primary curative care for RCH and communicable diseases. The fact that noncommunicable diseases (NCDs) represent a large morbidity burden including for the poor has only recently been realized in Chhattisgarh. With rising importance of NCDs, the State is beginning to recognize that it needs to take up the responsibility of providing preventive and curative care for NCDs. This change has implications for the HRH needs of the State. The demand and need for health-care services is growing and supply is lagging behind. As such, there is a need to identify HRH bottlenecks and opportunities for the State and identify pragmatic policy solutions to minimize the gap between demand and supply of health workers (Hws).

India has a pluralistic health-care system, with allopathic services playing a dominant role. The health system is mixed, with the private providers accounting for 52% of the total health expenditure in the State (6). The government-run services have greater focus on public health functions, disease prevention measures and preventive care services like immunization and ANC care. In health-care services, the focus has been traditionally on primary care for RCH and on infectious diseases like malaria, diarrhoea, TB and leprosy.

The public sector provides around half of the inpatient care (55.2%) and (55.3%) outpatient care (NSSO Seventy-first round) (7). The private sector is also covering almost half of the inpatient and outpatient care, but it focuses mostly on curative care services. An expanding private sector is operating in bigger urban areas in the central region of the State.

Chhattisgarh's per capita total health expenditure is 18% lower than of India (Rs 3375 vs 4116). As a proportion of Gross State Domestic Product (GSDP), the total health expenditure of Chhattisgarh is lower than the national average. In terms of government health expenditure, the per capita spending in Chhattisgarh is 16% lower than the national average. As a proportion of GSDP, Chhattisgarh's government health expenditure is lower than national average. However, the Chhattisgarh Government spends 5.6% of its total spending on health, which is better than the national average. This shows that though the total spending on health is poor, the state government is spending a greater share of its budget on health as compared to the national average (6) (Table 1).

Table 1: Health expenditure of Chhattisgarh vs the whole of India (2015–2016)

	Total health expenditure (THE)		Government health expenditure (GHE)			
	Per capita THE in Rs	THE as % of GSDP	Per capita GHE in Rs	GHE as % of THE	GHE as % of GSDP	GHE as % of gross government expenditure
Chhattisgarh	3375	3.50	1063	31.5	1.10	5.60
India	4116	3.84	1261	30.6	1.18	4.07

Source: National Health Accounts 2015–2016 (NHSRC, 2018)

Out-of-pocket expenditure (OOPE) remains a critical issue in India and Chhattisgarh. OOPE data on health care in Chhattisgarh shows that 39% of hospitalizations lead to catastrophic health expenditure at 10% threshold of usual consumption expenditure (NSSO Seventy-first round) (7). Of the total OOPE, 80% is incurred in the private sector providers and 20% in the public sector. Since 2009, public funding also finances a large insurance programme for inpatient care. The entire population of the State is eligible for free coverage under the insurance programme. It empanels private and public providers for hospital-based care. Studies of the insurance programmes in Chhattisgarh and India so far indicate their ineffectiveness in curtailing OOPE. Apart from issues in geographical distribution of the private sector providers, persistently high OOPE has been recognized as a key problem in literature on the publicly funded health insurance in Chhattisgarh and other parts of India (8–12). OOPE constitutes around 60% of THE in Chhattisgarh as well as in the whole of India (Table 2).

Table 2: Out-of-pocket-expenditure in Chhattisgarh and India (2015–2016)

	Per Capita OOPE in Rs	% GSDP	% THE
Chhattisgarh	1971	2.00	58.40
India	2494	2.33	60.59

Source: National Health Accounts 2015–2016 (NHSRC, 2018)

1.1.1 Spending on HRH

According to a recent study in Korba district of Chhattisgarh, around 60% of the government expenditure on health is for HRH (State Health Resource Centre (SHRC) [in press]). This is similar to the national level, where around two thirds of government expenditure is on HRH (13).

1.1.2 Contribution of HRH to overall employment

In India, estimates of HWs vary from 2.2 million to 3.7 million, depending upon the data source and estimation methods (14–16). The total workers in the country are 402 million. Thus, the

health sector contributes to less than 1% of the total employment in India. Of these, around one third are expected to be unqualified health-care practitioners. Studies of Chhattisgarh are not available, but the proportion of unqualified practitioners may be higher than the national average. Also, the contribution of the health sector to its employment in Chhattisgarh is also likely to be less than or close to the national average of 1%. The above estimates do not include community health workers (CHWs), who are partially employed in the health sector. Chhattisgarh has 70 000 CHWs called mitanins and 50 000 pre-school workers called Anganwadi workers (AWWs) who also participate in maternal and child health activities.

1.1.3 Public health system

The public health system has the following tiers:

1. A sub-centre is the lowest physical unit catering to a population of 5000 (3000 for tribal areas) for outreach function, with 1–2 paramedics. The State has 5200 sub-centres, mainly in rural areas.
2. A primary health centre (PHC) with a physician and inpatient facility (around 6 beds) for a population of 30 000 population (20 000 for tribal areas). The State has 791 PHCs in rural areas and 45 in urban slums.
3. A community health centre (CHC) for secondary care (with 30 beds and 4 specialists) catering to a population of 120 000 (80 000 for tribal areas). The State has 170 CHCs, mostly situated in small towns surrounded by rural areas.
4. A district hospital (DH) (100 plus beds) for a population of around 1 million. All except one of the 27 districts of the State have a DH. CHCs and DHs are the first referral units with selected specialist care providing both outpatient and inpatient care.
5. There are 6 medical college hospitals to provide tertiary health care – each region has at least one such hospital. Teaching hospitals having super-specialties providing outpatient care, in ward and rehabilitative care. There is also a super specialised hospital of the Central Government which serves as a centre of excellence in the system (AIIMS, Raipur).

Since its inception as a state, Chhattisgarh has had a significant shortage of doctors and nurses. When the State was formed in 2000, it had only one medical college. Many doctors chose to leave this region for Madhya Pradesh at the time of formation of Chhattisgarh. The shortage in the specialist cadre is particularly severe. There is a widespread perception that the State does not have enough doctors, especially in government facilities; and that doctors are unwilling to work in remote and tribal districts. The State follows a reservation system based on caste or social group categories. There is a perception that not enough qualified doctors and nurses are available, especially for the ST category. Despite these constraints, the State has committed to moving towards universal health coverage (UHC) and the current government has included it prominently in its manifesto. HRH shortages in the public sector are seen as a key stumbling block to attainment of UHC in Chhattisgarh.

However, the State was a pioneer in innovating in HR cadres. It started a large CHW programme called Mitanin Programme in 2002 (17). It started a 3-year diploma course to build a cadre of rural clinicians to run services in PHCs in the face of severe shortage of MBBS doctors in rural areas (18). It also launched an innovative programme to incentivize and support doctors in rural and remote areas through a scheme called Chhattisgarh Rural Medical Corps (CRMC) (19–20). More recently, the HR-led turnaround of DHs in highly remote and conflict-affected areas of Bijapur and Dantewada has been amongst the first of its nature anywhere in India (21).

An important boost to the system of health care provision came after the commencement of the National Rural Health Mission (NRHM) in 2006–2007. Under NRHM, the Central Government started giving additional funds for strengthening primary health-care services by additional HR, training of HR and improving basic infrastructure and supplies. Currently, the National Health Mission (NHM) (started in 2013, subsuming the NRHM and National Urban Health Mission) funds are around 25% of the total state budget. It set up additional programme management units at state, district and block levels. This structure also decentralized the devolution of power to the district and block, resulting in shared responsibilities for the provision of care.

The Directorate of Health and Family Welfare (DoHFW) has two directorates – Directorate of Health Services (DHS) and the Directorate of Medical Education (DME). DME looks after the administrative arrangements of medical colleges and their hospitals. It is also responsible for production of doctors and staff nurses. The public health system at tiers of district and below comes under the DHS. It also leads a state nodal agency to manage the insurance programme. Since auxiliary nurse midwife (ANM) schools are part of DHS, their supervision is in hands of DHS. NHM has a State Programme Management Unit (SPMU) with a Mission Director. It looks after contractual HR and innovative activities in collaboration with DHS. The State Institute of Health and Family Welfare (SIHFW) is a registered society which coordinates a large share of in-service training in the State. State Health Resource Centre (SHRC) is an autonomous society which coordinates the Mitani CHW programme and also functions as additional technical capacity to DoHFW, providing technical assistance for overall health system strengthening in Chhattisgarh.

The private sector comprises a mix of super-specialty hospitals, small hospitals and private nursing homes and clinics. The private hospitals are mainly located in urban areas which are staffed by both full-time private doctors and government doctors working in their off-duty hours. The State has a Clinical Establishments Act to regulate the private sector. Yet, there are a large number of informal unqualified providers active in rural and urban areas. Private sector inpatient facilities and dental clinics have received a big boost through the State's insurance scheme and receive around 85% of their claims amount. The private sector also seems to suffer from “selective care” and a skills shortage. It has been unable to supplement the capacity of the public sector by providing services that public sector is not able to provide adequately. The private sector is gaining ground in Chhattisgarh and it is important to consider the implication of this on the health labour market (HLM).

More recently, there is a central policy of “Comprehensive Primary Health Care” that has been initiated in Chhattisgarh. Health and wellness centres (HWCs) have been started for providing a comprehensive range of primary-care services closer to where people live. The main objective is to “provide population-based comprehensive primary health-care services closer to the population where they live and ensure affordable, sustainable and a continuum of care for every patient” and thus to contribute to the achievement of UHC (22). This reorganization of services has important implications for the HLM.

A comprehensive study on workforce management for the public health-care system was taken up in the year 2003 (23). An assessment of HRH in the health department was carried out using secondary data in 2012 (24). A study of regulatory measures to improve HRH retention was also carried out (25). This HLMA takes into account the needs of a changing system and builds on the previous HRH assessments in the State.

1.2 Objectives

Under the leadership of the Department of Health and Family Welfare and Medical Education of Chhattisgarh (DoHFWME), a set of policy questions leading to policy recommendations were identified in order to provide further insight into key health workforce challenges in Chhattisgarh and help to ensure that the health workforce in Chhattisgarh is sufficient to achieve UHC.

To that end, a series of meetings took place during the World Health Organization (WHO) mission in February 2019 with key stakeholders in Chhattisgarh from the various sections within DoHFWME and from civil society and the private sector (Table 3).

Table 3: February 2019 key stakeholder meetings

Organization	Persons consulted
State Health Secretariat	Ms Niharika Barik Singh – Secretary, Department of Health and Family Welfare and Department of Medical Education, Government of Chhattisgarh
National Health Mission	Dr Priyanka Shukla – Mission Director, National Health Mission Chhattisgarh Dr SK Pambhoi – Deputy Director NHM
State Health Directorate	Dr Deepak Agrawal – Joint Director Establishment Dr BR Soni – Deputy Director Nursing services Dr KC Urao – Deputy Director Health Services
State Health Systems Resource Centre	Dr Prabir Chatterjee – Executive Director Dr Samir Garg – Chief Programme Coordinator Directorate of Medical Education Dr SL Adile – Director of Medical Education
Chief Medical and Health Officer Office	Dr KS Shandilya – CMHO, Raipur
State Nursing Council	Ms Durgavati Usare – Registrar of State Nursing Council
District hospital	Dr Ravi Tiwari – Civil Surgeon Dr Rajesh Sharma – Government's Interface with IMA
Community Health Centre, Abhanpur	Dr A Jha – Block Medical Officer
Health & wellness centre	Dr Bharati Sahu – AMO, HWC, Ganaud
Civil society	Dr Yogesh Jain – Founder Director, Jan Swasthya Sahyog
PrivatesSector	Dr Rakesh Gupta – Indian Medical Association, Chhattisgarh

Through the discussions with stakeholders, the following key policy questions were identified:

- Is the production of HWs (with a focus on specialists, Medical Officers [MOs] and nurses) in Chhattisgarh sufficient to meet current demand, and how can the recruitment and deployment process be improved?
- What are the key health workforce elements to consider for a successful rolling out of the HWCs in Chhattisgarh?

Based on the policy questions, the report is structured as follows:

- Chapter 1 introduces the context in Chhattisgarh, the policy questions identified and the health labour market framework.

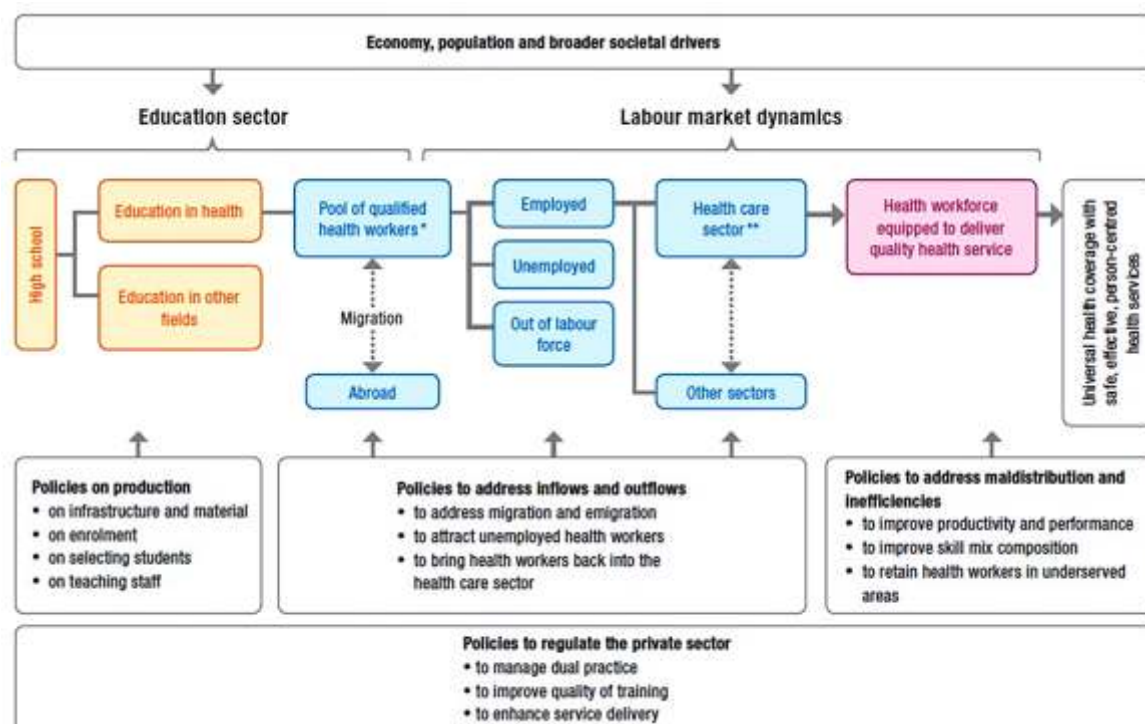
- Chapter 2 reviews the production, remuneration, recruitment and retention situation and policies for Mos.
- Chapters 3 and Chapter 4 adopt a similar approach for medical specialists and nurses, respectively.
- In Chapter 5, an analysis for a successful rolling out of the HWCs from a health workforce perspective is presented.
- Finally, a consolidation of policy recommendations is presented in Chapter 6.

1.3 Framework and methods

To answer these policy questions, the analysis in this report adopts a health labour market (HLM) approach. The HLM can be defined as a dynamic system comprising two distinct but closely related economic forces: the supply and demand of HWs. This dynamic is central in determining the level of health employment. Notable factors affecting the supply of HWs are education and training capacity and output, and migration. Notable factors affecting the demand for HWs from the public side are budget and socioeconomic factors. A health labour market analysis (HLMA) captures both these supply and demand side elements.

The labour market for HWs is dynamic and multidimensional. Fig. 1 illustrates the HLM Framework which is the foundation of the labour market analyses conducted earlier, including in Sri Lanka (26, 27). It comprises of the production of HWs through the education system, the absorption capacity of HWs by the health system and the analysis of important elements of the HWs engaged in the health sector (productivity, performance, skill mix and geographic distribution).

Fig. 1: HLM framework for UHC



Source: Sousa et al., 2013

It is important to understand the absorption of HWs into the health system. In addition, not all qualified HWs will be actively participating in the HLM. Some may be unemployed, and some will work in other sectors. Of the pool of HWs engaged in the health sector, productivity, performance, skill mix and geographic distribution are important elements, particularly if the aim of the health system is UHC (27).

The HLM is complex and spans the education, finance, labour, public service and health sectors, among others. Therefore, in order to get a complete picture, a comprehensive set of data is

required. This is generally supplied by different government and nongovernmental agencies. Although data on each element of the labour market is useful, the true value of a labour market analysis lies in its ability to generate an understanding of the entire flow through of the market. The labour market is dynamic. Time lags are evident; for example, the time between education and deployment of the health workforce. As such it is important to capture data in a longitudinal manner; typically, with a 10-year time horizon in mind.

As per the objectives of the study, the analysis focuses on several key concepts: (i) macroeconomic factors that affect the supply and demand of specialists, doctors and nurses (these are presented in chapter 1); (ii) the absorption capacity of the Chhattisgarh government/public health-care sector and the private health-care sector in the State; and (iii) the distributional factors related to the nursing and medical workforce in Chhattisgarh.

The information and data used in this analysis were provided by the various sections of DoHFWME, Chhattisgarh.

Data/information were collected through:

- a) Quantitative analysis of secondary data collected from DoHFW. This was the main source of analysis.
- b) Qualitative analysis of stakeholder interviews, in order to confirm and explain the inferences from the quantitative analysis

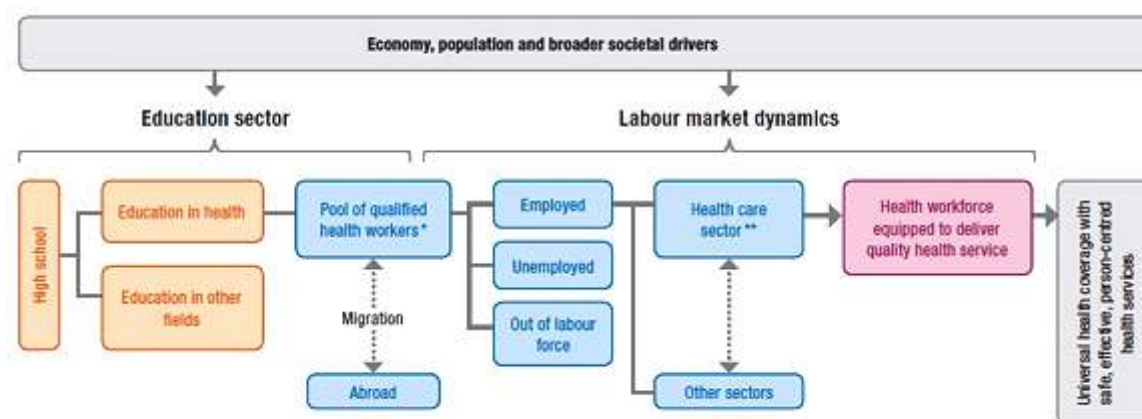
In order to strengthen and continue stakeholder's engagement on health workforce issues and in particular on the HLMA, the terms of reference of the Technical Working Group has been submitted.

Chapter 2: Adequacy of production and recruitment of MOs in Chhattisgarh

The main issue examined in this chapter is about assessing whether the production and deployment of doctors in Chhattisgarh is sufficient to meet the current demand in the State. This chapter also reviews the efforts of Chhattisgarh to recruit the required doctors and the potential strategies for government to address recruitment and retention issues.

To address this question, the current availability and demand for doctors is examined based on the HLM framework presented in Fig. 2.

Fig. 2: HLM framework



Source: *Global Strategy on Human Resources for Health: Workforce 2030*

This chapter focuses on MOs, i.e. those with at least a MBBS. It also includes a more general overview for the assistant medical officer (AMO) cadre, dental surgeons and ayurvedic doctors.

The State Government’s Department of Health has two directorates under which the doctors work. One directorate – the DHS – manages the facilities at district level and below. The second directorate – DME – is responsible for managing the government medical colleges in the State.

2.1 Government MOs

DHS is the main government recruiter of MBBS graduates. DME, on the other hand, mainly employs specialist doctors for its teaching hospitals, i.e. medical colleges.

In Chhattisgarh, MOs are recruited under three kinds of appointments, i.e. regular, ad hoc and contractual (Table 4). regular MOs are permanent posts of the State Health Department and are fully funded by the State budget. Ad hoc MOs are appointments on contract basis but against regular posts, which are done as a contingency measure when regular appointments are not feasible due to administrative reasons. Contractual positions are approved and funded by the NHM, in which the Central Government bears 60% of the cost.

2.1.1 MOs under DHS

Table 4: Types of MOs in Chhattisgarh in 2018–2019

Nature of Appointment	Number	Proportion
regular MO	1180	76%
DMO	125	8%
Contractual MO	252	16%
Total	1557	100%

Source: *Data collected from DHS*

Regular appointments are the mainstay of HRH in the Department of Health and offer advantages of job security and low attrition rates. Ad hoc appointments are just a contingency measure, meant to be used in exceptional circumstances. In 2018–2019, there were 2079 approved positions for regular MOs.

Contractual appointments involve fewer administrative procedures, offer greater flexibility to government in terms of recruitment procedures and deciding salaries but usually involve high attrition rates. Contracts are annual and NHM prescribes annual performance appraisal for renewal of contracts. In practice, renewal is automatic unless there is an exceptional event of the concerned programme getting discontinued. Contractual positions are few in number: in 2018–2019, there were 367 contractual positions, as against 2079 regular positions. Thus, regular appointments are the main mechanism of recruiting MOs under DHS.

2.1.1.1 MOs with regular appointments

Category- and gender-wise distribution of regular MOs for 2018 is given in Table 5. Overall, the most frequent MO category is general (37%) followed by ST (33%). Of the regular MOs, 26% are female. Social category-wise breakdown shows that general (unreserved) and ST categories have relatively higher proportion of female MOs than other categories. Therefore, Table 5 suggests that intersectionality, specifically that between gender and class may be an important consideration in recruitment.

Table 5: Distribution of regular MOs by gender and caste category

Category	Total (1180)	Female (308)	Male (872)
General	437 (37%)	125 (29%)	312 (71%)
Other backward Class (OBC)	153 (13%)	21 (14%)	132 (86%)
Scheduled Caste (SC)	201 (17%)	43 (21%)	158 (79%)
Scheduled Tribe (ST)	389 (33%)	119 (31%)	270 (69%)
Total	1180 (100%)	308 (26%)	872 (74%)

Source: Data collected from DHS

Table 6 gives the division-wise data for 3 years (2016–2017 to 2018–2019) and Table 7 gives data for regular MO appointments across all the districts.

Table 6: Approved vs working regular MOs by division in Chhattisgarh

Division	2016			2017			2018		
	MOs			MOs			MOs		
	Approved	Working	Vacant	Approved	Working	Vacant	Approved	Working	Vacant
Raipur and Durg	668	613	55	743	584	159	754	520	234
		(92%)	(8%)		(79%)	(21%)		(69%)	(31%)
Bilaspur	453	390	63	501	369	132	503	306	197
		(86%)	(14%)		(74%)	(26%)		(61%)	(39%)
Bastar	383	167	216	405	190	215	413	160	253
		(44%)	(66%)		(47%)	(53%)		(39%)	(61%)
Sarguja	369	293	76	399	216	183	409	194	215
		(79%)	(21%)		(54%)	(46%)		(47%)	(53%)
Total	1873	1463	410	2048	1359	689	2079	1180	899
			(78%)		(22%)			(66%)	(44%)

Source: Data collected from DHS

Table 6 shows that the total number of MOs working in regular appointments decreased by 19.3% between 2016 and 2018. At the same time, the number of approved regular postings had increased by 11%, with approximately 200 new postings (primarily in Raipur and Durg). In other words, the combination of the decreased actual supply of MOs and the increased of approved posts led to the high vacancy rate. The decrease in number of working regular MOs demonstrates the challenge of attrition. As demonstrated a little later, the number of regular MOs near the retirement age suggests that this could be a contributory problem. The contributory factors associated with this attrition need to be explored further. The vacancy rate in Chhattisgarh for Regular MOs doubled from 22% in 2016 to 43% in 2018. This suggests that simply creating new posts will not be sufficient to meet the demand for MOs.

Bastar and Surguja represent the main remote and tribal regions of the State. Three years' trend data show that Raipur and Durg divisions put together had the lowest (but still high) proportion of vacancies, whereas Bastar division had the highest.

At the District level, Table 7 shows that there is a wide geographic variation in the vacancy rate across districts.

Table 7: Approved vs working regular MOs by district in Chhattisgarh

District	2016				2017				2018			
	MOs				MOs				MOs			
	Approved	Working	Vacant	%	Approved	Working	Vacant	%	Approved	Working	Vacant	%
Raipur	116	111	5	4%	116	118	-2	-2%	116	138	22	-19%
BalodaBajar	66	71	-5	-8%	69	55	14	20%	70	33	37	53%
Gariyaband	51	47	4	8%	51	36	15	29%	51	33	18	35%
Dhamatari	53	52	1	2%	55	46	9	16%	58	36	22	38%
Kavardha	54	40	14	26%	63	41	22	35%	63	32	31	49%
Mahasamund	57	64	-7	-12%	61	62	-1	-2%	64	48	16	25%
Rajnandgaon	82	50	32	39%	109	66	43	39%	109	63	46	42%
Durg	88	88	0	0%	102	85	17	17%	102	81	21	21%
Balod	67	54	13	19%	67	50	17	25%	69	34	35	51%
Bemetara	34	36	-2	-6%	50	25	25	50%	52	22	30	58%
Raipur and Durg Division	668	613	55	8%	743	584	159	21%	754	520	234	31%
Bilaspur	115	116	-1	-1%	138	125	13	9%	138	112	26	19%
Mungeli	51	48	3	6%	60	33	27	45%	60	30	30	50%
Korba	71	85	-14	-20%	74	73	1	1%	76	54	22	29%
Raigarh	121	69	52	43%	121	71	50	41%	121	68	53	44%
Janjgir	95	72	23	24%	108	67	41	38%	108	42	66	61%
Bilaspur	453	390	63	14%	501	369	132	26%	503	306	197	39%
Jagadapur	87	32	55	63%	82	47	35	43%	82	44	38	46%
Kondagaon	55	25	30	55%	72	23	49	68%	73	26	47	64%
Bijapur	38	12	26	68%	38	9	29	76%	42	9	33	79%
Kanker	80	56	24	30%	87	60	27	31%	87	47	40	46%
Dantewada	62	19	43	69%	62	23	39	63%	62	20	42	68%
Sukma	37	9	28	76%	39	14	25	64%	42	9	33	79%
Narayanpur	24	14	10	42%	25	14	11	44%	25	5	20	80%
Bastar	383	167	216	56%	405	190	215	53%	413	160	253	61%
Surguja	66	63	3	5%	66	38	28	42%	76	73	3	4%
Balarampur	71	47	24	34%	82	40	42	51%	82	12	70	85%
Surajpur	85	50	35	41%	85	37	48	56%	85	23	62	73%
Koriya	67	67	0	0%	72	47	25	35%	72	38	34	47%
Jashpur	80	66	14	18%	94	54	40	43%	94	48	46	49%
Surguja Division	369	293	76	21%	399	216	183	46%	409	194	215	53%
Total	1873	1463	410	22%	2048	1359	689	34%	2079	1180	899	43%

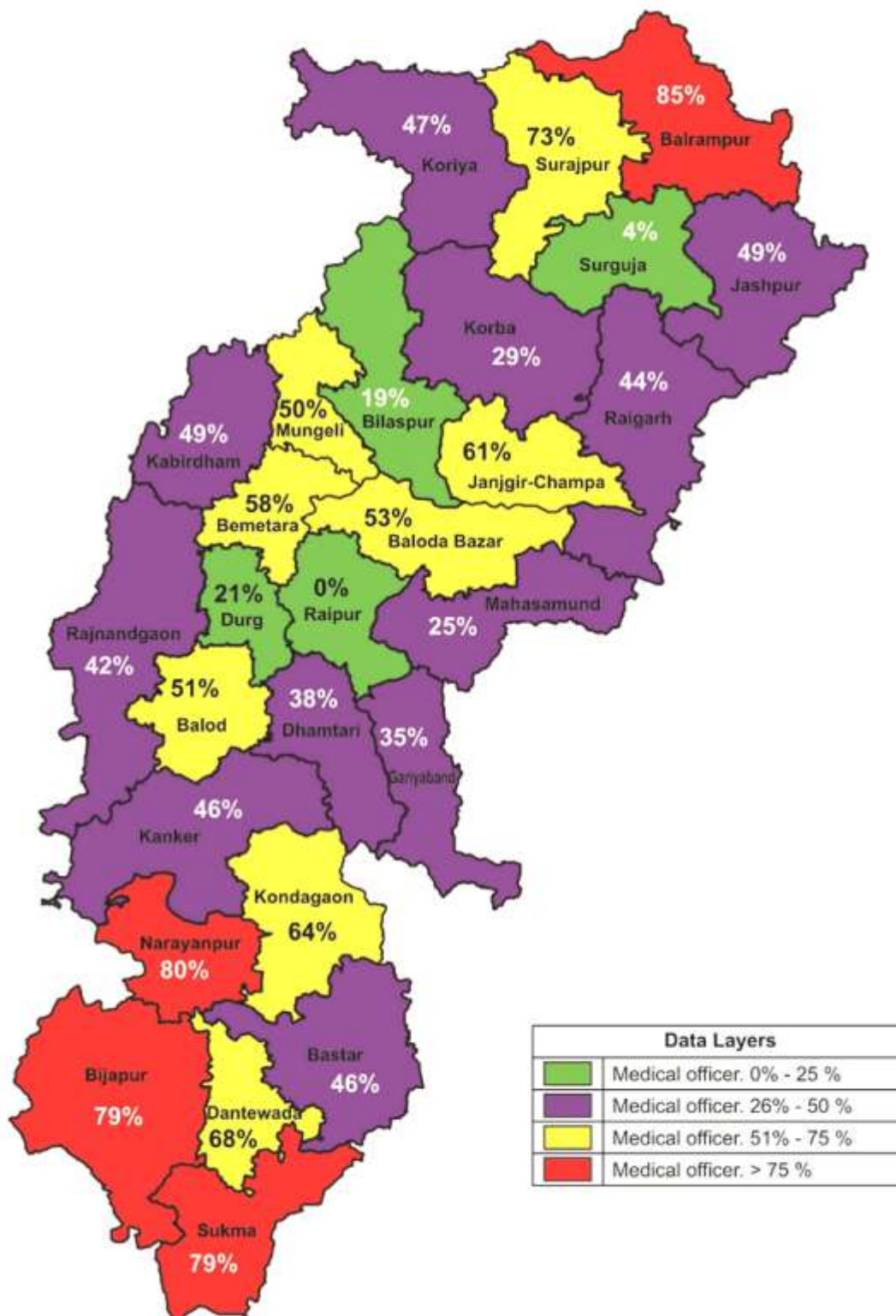
Source: Data collected from DHS

In the State, the vacancies against approved MO positions have increased from 410 in 2016 to 899 in 2018. Out of the 479 vacancies increased, 206 were due to newly-created posts and the remaining were due to doctors leaving the service. Vacancy rates have increased in all divisions except Bastar where it was already very high, at above 60%.

District-wise vacancy rates are given in Fig. 3.

Fig. 3: Map of district-wise vacancy rates of regular MOs – 2018

VACANCY OF MEDICAL OFFICERS IN CHHATTISGARH



Data Layers	
Green	Medical officer. 0% - 25 %
Purple	Medical officer. 26% - 50 %
Yellow	Medical officer. 51% - 75 %
Red	Medical officer. > 75 %

Source: Data collected from DHS

Fig. 3 shows that the central areas have lower vacancy rates as compared to the peripheral parts of the State, which in general have a higher proportion of tribal population.

District-wise data for gender distribution of MOs (regulars) 2018–2019: Fig. 4 shows the district-wise data for gender distribution. that tThe central or urban districts have relatively higher number of female doctors, with more than 40% of female doctors in Raipur are female, whereas districts in tribal areas like the Bastar division (e.g. Narayanpur, Sukma, Bijapur) only have 11% of female MOs.

Fig. 4: Gender distribution of MOs (regulars), by district 2018–2019

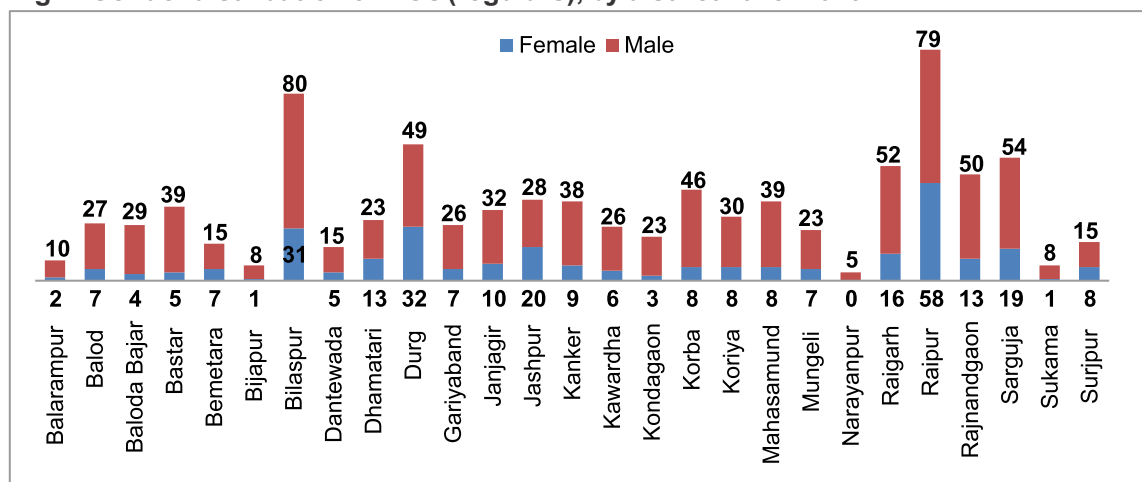


Table 8 shows the district-wise data for average population approved per MO and population per regular MO officer posted. In state average, there is one regular MO post approved per 12 287 population, whereas there is one regular MO in position per 21 648 population.

Note: As district-wise approved number of contractual doctors is not specified, this district-wise analysis does not include contractual doctors.

Table 8: District-wise ratio of population per regular MO 2018

District	Population (Census 2011)	Area (sq.km)	Population density (per sq km)	Approved MO posts	Working MOs	Approved post of MO/10 000 population	Existing MO/10 000 population
Durg	1 721 948	2238	769	102	81	0.6	0.5
Dhamtari	799 781	2029	394	58	36	0.7	0.5
JanjgirChampa	1 619 707	4466	363	108	42	0.7	0.3
BalodaBajar	1 305 343	3730	350	70	33	0.5	0.3
Bilaspur	1 961 922	5818	337	138	112	0.7	0.6
Raigarh	1 493 984	5031	297	121	68	0.8	0.5
Surajpur	789 043	2787	283	85	23	1.1	0.3
Bemetara	795 759	2855	279	52	22	0.7	0.3
Mungeli	701 707	2750	255	60	30	0.9	0.4
Balod	826 165	3527	234	69	34	0.8	0.4
Mahasamund	1 032 754	4790	216	64	48	0.6	0.5
Bastar	834 375	4030	207	82	44	1.0	0.5
Balarampur	730 449	3806	192	82	12	1.1	0.2
Rajnandgaon	1 537 133	8070	190	109	63	0.7	0.4
Kabirdham	822 526	4447	185	63	32	0.8	0.4
Raipur	2 160 876	12 383	175	116	138	0.5	0.6
Korba	1 206 640	7145	169	76	54	0.6	0.4

Jashpur	851 669	6457	132	94	48	1.1	0.6
Kanker	748 941	6424	117	87	47	1.2	0.6
Koriya	658 917	5978	110	72	38	1.1	0.6
Gariyaband	597 653	5823	103	51	33	0.9	0.6
Dantewada	282 479	3411	83	62	20	2.2	0.7
Kondagaon	578 824	7769	75	73	26	1.3	0.4
Sarguja	840 352	16 359	51	76	73	0.9	0.9
Sukma	250 159	5636	44	42	9	1.7	0.4
Bijapur	255 230	6562	39	42	9	1.6	0.4
Narayanpur	139 820	7010	20	25	5	1.8	0.4
Total	25 544 156	151 331	169	2079	1180	0.8	0.5

Source: Data collected from DHS

The districts with highly remote and scattered populations have low population density as shown in the last few entries of Table 8. These districts have been sanctioned with better ratio of doctor to population, in order to address the geographical challenges. The geographical distribution of existing MOs shows that Balrampur district has the lowest availability of regular doctors per unit population, followed by Surajpur, Balodabazar, Janjgir Champa and Bemetara districts. This policy aimed at providing more MOs to the areas that needed them the most. Despite this effort, the number of working doctors in the majority of the difficult areas is still poor. However, the remote/tribal districts would have been in a worse situation if the sanctioned posts were less. There are nine new predominantly rural districts (formed in 2013) where the sanctioned strength of doctors has not got increased adequately.

Current age wise classification of regular MOs: In 2018, 50% of regular MOs in the State were above the age of 50. Age of retirement is 65 years for regular posts. Data demonstrate that 17% are close to their retirement age as they are above 60 years of age (Table 9). It also indicates that recruitments appear to have slowed down in the last two decades.

Table 9: Age distribution of regular MOs

Age category	Percentage
Under 30 years	12 (1%)
31–40 years	260 (22%)
41–50 years	307 (26%)
51–60 years	389 (33%)
Above 60 years	200 (17%)
Age not mentioned	12 (1%)
Total	1180

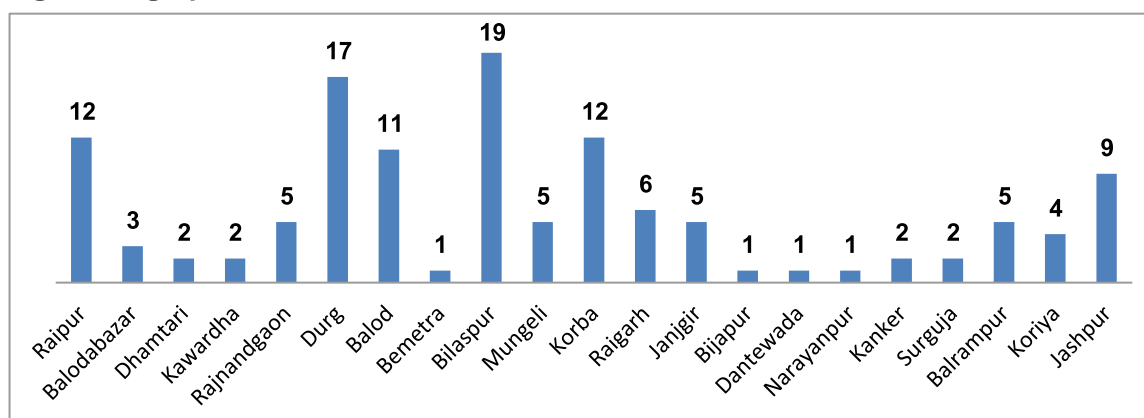
Source: Data collected from DHS

2.1.1.2 MOs working on ad hoc basis

Since 2010–2012, the State has recruited 125 MOs on contractual basis, but against regular vacancies. This set of appointments is called ad hoc postings. This was done in a situation when the Public Service Commission, the official authority who could carry out recruitment of regular MOs, was unable to perform the function. There is no specific number sanctioned as posts under this category. It is used rarely and only represents a small proportion of all posts. As indicated, the Health Department tried to cover a gap by directly recruiting 125 MOs through this type of contract, instead of depending on the Public Service Commission. The recruited MOs however could not be given the status of “regular” appointee and had to be classified as “ad hoc”. Subsequently, the health department was given the official authority to recruit in “regular” MO posts.

Fig. 5 shows that the central districts had a bigger share of such appointments.

Fig. 5: Geographical distribution of ad hoc MOs: 2018–2019



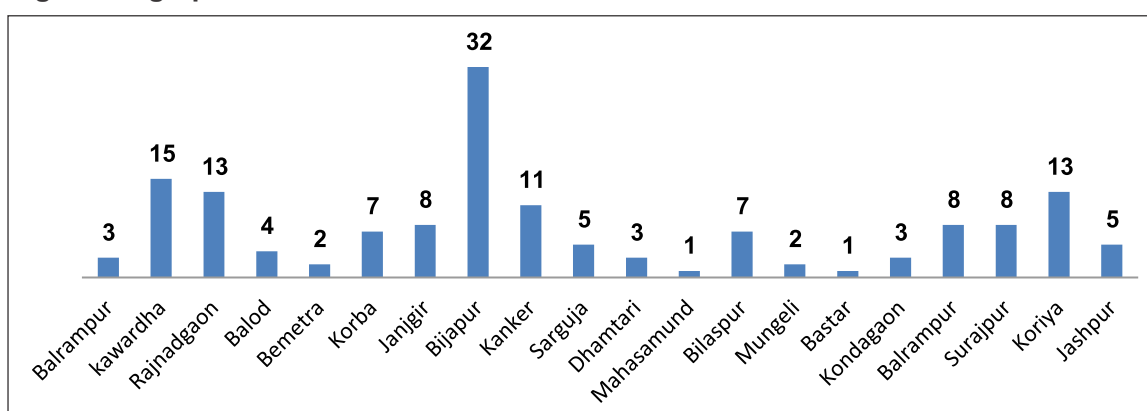
Out of the 125 ad hoc MOs, 73% are male and 27% are female. This is similar to the proportion of females for regular MOs.

2.1.1.3 Contractual MOs

The State has posted 152 contractual MOs, though 200 are approved under NHM. Out of the 152 contractual MOs working in 2019, 25% were female.

Fig. 6 shows the district-wise distribution of contractual MOs. The highest number of contractual doctors posted among all districts is in Bijapur district. Bijapur, one of the remotest districts is able to attract doctors through better salaries and other provisions, including accommodation.

Fig. 6: Geographical distribution of contractual MOs 2018–2019



Apart from the above, there are 167 contractual positions of MOs under specific programmes of NHM – 90 for urban PHCs under the National Urban Health Mission (NUHM) and the remaining are based in DHs – 54 under special newborn care units (SNCUs), 7 for district early intervention centres (DEICs) and 16 for intensive care units (ICUs)/high dependence units (HDUs). Around 100 of these posts are filled.

2.1.2 Doctors under DME

Government Medical Colleges have 995 doctors as regular employees (under DME), most of whom are specialist doctors under regular appointments. The total number of sanctioned positions of doctors under DME are 1624.

Total availability of government doctors in Chhattisgarh: As shown in Table 1, that State has a total of 1557 MOs (regular, ad hoc and contractual). Of them, 179 doctors are not working: 16 are suspended, 26 are retired, have 23 resigned, 81 are on long-term absence from service, 11 are not alive, 5 have not joined service after transfer, 6 took voluntary retirement and 11 have gone for higher studies. In February 2019, the State has added 239 new doctors to its regular rolls. This gives us the number of currently working MOs in the State as 1617.

Around 300 MOs are working against the 2-year bond for government service. In addition, there are 180 specialist doctors in the State. The Central Government has one institution, AIIMS, that currently employs 305 doctors. Around 100 specialists are working against the 2-year bond for government service.

Chhattisgarh has many public sector industries (SECL, NMDC, NTPC, SAIL) with their own hospitals with around 300 doctors. These are not included in the above figures even though they are on the public sector payroll.

Table 9 summarizes the number of government doctors in Chhattisgarh under various types of employment. This table includes MOs as well as specialist doctors.

Table 9: Number of Government doctors (including specialists) in Chhattisgarh

Ser No	Type of employment	Number of doctors
1.	Mos under DHS (State Government, including contractual appointments under NHM)	1617
2.	Specialists under DHS (State Government)	180
3.	Doctors under DME (State Government)	995
4.	Mos working in DHS under 2-year bond for MBBS education	300
5.	Specialists working in DHS under 2-year bond for post-graduation (MD/MS)	100
6.	Doctors in AIIMS (Central Government)	305
7.	Doctors in hospitals owned by public sector units (industrial organisations owned by Central Government)	300
	Total	3797

Source: Data collected from DHS, DME and AIIMS

Thus, the total number of doctors (including specialists) working in government employment is estimated to be approximately 3797 (in 2019).

According to Census 2011, State had a population of 25.5 million which was projected to be around 30 million today. This represents a density of 1.3 government doctors per 10 000 population. However, this does not reflect the skewed geographical distribution, which is also an area of concern.

How many more MOs the State Government needs currently: Out of the 1617 MOs working with DHS, 431 have qualification of specialists. Since the State does not have direct recruitment for specialists, they were recruited as MOs. They are eligible for specialist post after 5 years of service, but some continue as MOs due to delays in promotion-related procedures. This set of specialists working as MOs has been discussed in further detail in Chapter 3 on specialists. Around 300 MOs are working on bond. If the MOs with PG qualifications are excluded, the department effectively has 1396 MOs against 2446 (2079 regular and 367 contractual) sanctioned posts under DHS. Thus, around 829 more MOs need to be recruited to fill the existing approved posts under DHS.

In addition, under DME, there are 995 doctors working against 1624 sanctioned positions (including specialists). Thus, 629 doctors are needed for medical colleges. Most of these are specialist positions and therefore not counted in the above calculation of recruitment need for non-PG MOs.

Thus, the total number of doctors (MOs and specialists) that the State Government needs to recruit against the sanctioned posts is 1458. When the State Government is able to recruit them, the total number of working government doctors will be 5259, which means around 1.8 government doctors per 10000 population.

2.2 Availability of private doctors

According to the Medical Council of India (MCI), 8322 MBBS doctors are registered in Chhattisgarh. A rough estimate for the number still working in Chhattisgarh would be around 85%, as some are not practicing within Chhattisgarh anymore. Based on this assumption, approximately 7000 allopathic doctors are likely to be still working in Chhattisgarh. In addition, according to key informants from the MO Association of Chhattisgarh, around 1500 doctors registered in the parent state Madhya Pradesh are expected to be still working in Chhattisgarh – around 500 in government and 1000 in private sector. These are the doctors who got registered before 2000, i.e. prior to formation of Chhattisgarh. Thus, the current number of total doctors in Chhattisgarh is likely to be around 8500. If we deduct the approximate number of allopathic doctors working with government (3801) the number of doctors (including specialist doctors) in the private sector is likely to be around 4700, assuming that all the 8322 doctors registered in Chhattisgarh are still working in the State. This represents a density of 2.9 doctors per 10 000 population.

Under the above assumptions, we estimate that around 55% of the total allopathic doctors in the State could be working in the private sector. This estimate is below the estimate of the proportion nationally of private doctors. At national level, around 80% of doctors are estimated to be working in the private sector and one document of Central Government reports the proportion to be as high as 89% (11).

The State enacted its Clinical Establishments Regulation Act in 2011. It made it mandatory for the clinical establishments to register with the government. The number of registered private clinical establishments of various types in the State is given in Table 10.

Table 10: Number of registered private clinical establishments in the State

Type of Institution	Number
Hospital/maternity home/nursing home	955
Clinic (allopathic/recognised indigenous systems of medicine)	3614
Total	4569

Source: Data collected from DHS

As depicted in Figs. 7 and 8, the bulk of the private sector providers are concentrated in central/urban districts.

Fig. 7: Distribution of private hospitals throughout the State

Geographical Distribution of Private Hospitals in Chhattisgarh



Fig. 8: Distribution of private medical clinics throughout the State

Geographical Distribution of Private Clinics in Chhattisgarh



Dual practice by doctors employed in Government is another source of HRH in the private sector. The State rules allow doctors dual practice if they are willing to forego the NPA. The NPA currently is fixed at 20% of salary. Recent rulings by the High Court have led to introduction of some regulations for private practice by government doctors. According to the qualitative interviews, most of the above regulations remain on paper and have not got enforced. For example, in order to reduce conflict of interest, the rules allow government doctors to practice from their home clinics but not from private hospitals. However, this regulation has not been followed on ground, with many government doctors reportedly practicing from private hospitals.

The distribution of private hospitals by district is given in Table 11.

Table 11: Distribution of private hospitals and clinics in Chhattisgarh

District	Private hospitals	Private clinics
Koriya	12	66
Bastar	10	75
Mungeli	13	36
Narayanpur	3	5
Dantewada	2	26
Rajnandgaon	41	296
Bilaspur	148	425
Balod	18	58
Mahasamund	22	84

Raipur	282	777
Sukma	0	0
Raigarh	51	321
Korba	34	127
Durg	132	453
Surajpur	8	70
Sarguja	30	130
Gariyabandh	12	25
Bijapur	0	1
Janjgir-CHANPA	25	118
Dhamtari	29	90
Balrampur	1	69
Kondagaon	7	20
Kawardha	19	11
Jashpur	4	17
Kanker	20	65
Bemetara	9	46
Baloudabazar	23	203
Total	955	3614

Source: Data collected from DHS

The private sector in the State has seen a rapid growth since 2000. The growth of private hospitals received a boost from 2009 onwards with the introduction of publicly funded health insurance schemes in the State. Rashtriya Swasthya Bima Yojana (RSBY) was operationalized in 2009 to cover the below poverty line (BPL) population. In 2012, the State added Mukhyamantri Swasthya Bima Yojana (MSBY), making the entire population of the State eligible. Also, the range of services covered under the schemes was expanded to cover dental care, that resulted in mushrooming of dental clinics in the State. In September 2018, the above schemes were renamed as Pradhan Mantri Jan Arogya Yojana (PMJAY) and the annual sum assured per family was increased. Recent research on publicly-funded health insurance schemes in Chhattisgarh showed that bulk of the private sector hospitals were still concentrated in urban areas and the schemes therefore did not result in improving availability of qualified medical care in rural districts (8).

2.3 Population per doctor in Chhattisgarh

As estimated earlier, there are around 8500 practicing doctors in Chhattisgarh. This means an average of 2.9 doctors per 10 000 population, which is low compared to the national average of 7.58/10 000 population (as reported by Ministry of Health and Family Welfare to WHO Regional Office for South-East Asia based on MCI data) and as per international standards. Further, the geographical concentration of available MOs is highly skewed in favour of urban areas. The rural, remote and tribal districts are short of MBBS doctors in both the public as well as private sectors.

2.4 Production of MBBS doctors in Chhattisgarh

2.4.1 Number of MBBS colleges and seats in Chhattisgarh

The State has six government medical colleges and one fully operational private medical college. In addition, there are two partially functional colleges. The State also has an All India Institute of Medical Sciences (AIIMS) in Raipur. Locations of the medical colleges and number of

seats (total intake) are given in Table 12. The State has a total 750 MBBS seats (600 in government medical colleges and 150 in the private medical college). In government medical colleges, out of the total seats, 82% seats are reserved under state quota, 15% for all India quota and 3% are for central pool quota. In the private medical college, 43% seats are reserved under state quota, 42% for management quota and 15% for non-resident indian (NRI) candidates.

Table 12: Number of medical (MBBS) colleges and seats in Chhattisgarh – 2019

Government medical colleges					
S.No	Location	Total seats	82% state quota	All India 15% quota	Central pool quota 3%
1	Raipur	150	124	22	4
2	Bilaspur	100	82	15	3
3	Rajnandgaon	100	82	15	3
4	Ambikapur	100	82	15	3
5	Jagdapur	100	82	15	3
6	Raigarh	50	42	7	1
Total seats		600	494	89	17
Private medical colleges					
S.No	Location of the college	Total seats	State quota (43%)	Management quota (42%)	NRI quota (15%)
1	Durg	150	64	63	23
Total seats		150	64	63	23

Source: Data collected from DME

Notes:

1. None of the seats in any medical college were vacant last year.
2. The State has All India Institute of Medical Sciences (AIIMS) Central Government institute in Raipur with 100 seat intake for MBBS. This has not been included list because it does not have any specific quota for Chhattisgarh students.

Breakdown of 82% reservation for seats is given in Table 13.

Table 13: Reservation classification for 82% state quota in MBSS and BDS

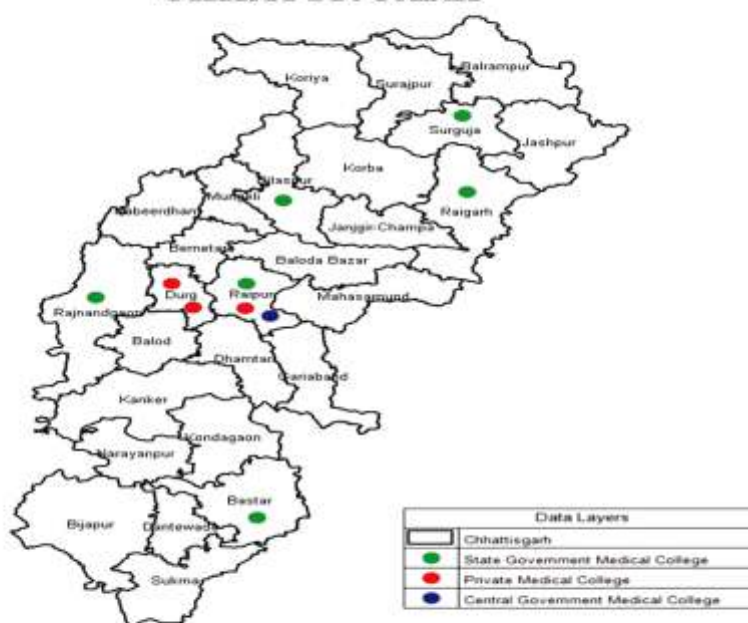
Categories	Reservation
Scheduled Tribe (ST)	32%
Scheduled Caste (SC)	12%
Other Backward Classes (OBC)	14%
Person with Disability (PH)*	5%
Armed Forces (S)*	3%
Freedom Fighters (FF)*	3%
Female *	30%

*Number of females/PH/FF/S are included in the category figures

As depicted in Fig. 9, the six government medical colleges in the State are well distributed across the different geographical regions of the State. But there are no regional quotas. For example, the medical colleges in remote regions, Bastar and Surguja do not have any quota for admission of students from local regions. This limits the benefit of teaching hospitals being well-distributed. The medical colleges are evenly distributed because of their value as tertiary-care hospitals.

Fig. 9: Distribution of medical colleges across the State

LOCATION OF MEDICAL COLLEGES IN CHHATTISGARH



Note: Among the three private colleges, only one was functional in 2019.

2.4.2 Is the production of doctors in the State enough?

Interpreting WHO norms

- In 2006, WHO highlighted that 22.8 health professionals (doctors, nurses and midwives) per 10 000 population are required to meet 80% coverage of birth by skilled birth attendants. The OECD ratio of nurses to doctors is 3:1. This translates to an average of 6 doctors and 17 nurses and midwives (28).
- In 2016, WHO suggested that 44.5 health professionals per 10 000 population were generally needed to achieve coverage for a basket of 12 Sustainable Development Goal (SDG) tracer indicators which included chronic NCDs (29).

Countries are supposed to develop their own norms for HRH. Neither India nor Chhattisgarh have decided on a particular target. Assuming that the State aims to achieve the more modest target, it needs to have 6 doctors per 10 000 population, distributed equitably across all populations. Therefore, Chhattisgarh will need to double the number of doctors it currently has. This translates to around 9000 additional doctors. At the current production of around 558 doctors a year from the state quota, it will take around 16 years to meet this target, assuming all new graduates choose to work in Chhattisgarh, but not accounting for the 300 doctors who retire or pass away each year. The State has not seen any significant in-migration of doctors from other states. The number of doctors graduating in the State is 2.59/100 000 population per year. This falls below the Indian average (5.19/100 000) and some countries in WHO South-East Asia Region, making a case to increase the number of seats to achieve the local norm. With Chhattisgarh only having half the intake per unit population as compared to the Indian average, the State would need to produce 1500 MBBS annually against current production of 750 to align itself with the Indian average.

Feasibility of increasing production

The existing medical colleges in the State, both government ones and the private colleges, face challenges in getting adequate number of faculty to run the MBBS programme. The recently started colleges have severe shortages of specialists. DME has around 40% vacant posts. As a result, it may only be feasible to increase the number of medical graduates gradually, perhaps adding an intake of around 100 annually within the existing 9 medical colleges.

Trend data of annual intake of medical colleges in Chhattisgarh

The annual intake (number of seats) in medical colleges has grown five times over the last two decades (Table 14).

Table 14: Annual Intake of medical colleges in Chhattisgarh

Year	MBBS intake per year
Before 2003	150
2003 to 2012	300
2013 to 2016	550
2017 onwards	750

Source: Data collected from DME

The State produced more than 4000 MBBS graduates in its medical colleges from 2001 to 2018.

2.5 Matching regional and caste category-wise vacancies to production

Raipur and Durg divisions produce enough doctors belonging to Chhattisgarh to meet the number of their current regular vacancies in the public sector in a single year. Other divisions have vacancies matching two to three years of production (Table 15).

Table 15: Division wise vacancy of MOs and production of MBBS graduates

Division	Approved (regular)	Vacant 2018–2019 (regular)	Production (seats from state quota)	Number of medical colleges
Raipur and Durg	754	234	270	3
Bilaspur	503	197	124	1
Bastar	413	253	82	1
Sarguja	409	215	82	2
Total	2079	899	558	7

Source: Data collected from DHS

It was examined whether there was any mismatch between caste category distribution of medical graduates and current vacancies. Given that the caste category-based reservation proportions are similar in government-funded medical education and in government jobs, this was not found to be a problem. There are substantial vacancies in all caste-categories. However, according to the recruitments section of the DHS, ST category posts are likely to be more difficult to be filled than others (Table 16).

Table 16: Division and Category wise vacancy of regular MOs and production of MOs

Category/division	Raipur and Durg		Bilaspur		Bastar		Sarguja	
	Vacant	Production	Vacant	Production	Vacant	Production	Vacant	Production
General	98	114	83	52	106	35	90	35
OBC	33	38	27	117	35	11	30	11
SC	28	33	24	15	31	10	26	10
ST	75	86	63	40	81	26	69	26
Total	234	270 (115%)	197	124 (42%)	253	82 (32%)	215	82 (58%)

Source: Data collected from DHS

Divisional (regional)- and category-wise data for vacancy and production of MOs in Table 16 shows that Raipur and Durg divisions have sufficient production. If they are able to attract 50% of new graduates, they can fill all vacancies within 2 years. Bastar, Bilaspur and Sarguja division have 32%, 42% and 58% yearly production against their vacant posts, respectively. If they

attract 50% of new MBBS graduates to public services, then the vacancies in each division can be filled in 5–6 years. But so far, government has not been able to attract enough MBBS graduates to join government jobs. This aspect has been discussed in greater length in a later section. Secondly, regional distribution of production has not resulted in correcting regional imbalance in vacancy rates.

If the government is able fill the existing vacancies, then the State may need to increase the sanctioned posts substantially to reach the requisite number of doctors in the State.

2.5.1 Recruitments conducted for MOs

When Chhattisgarh was carved out as a new state out of the parent state Madhya Pradesh in the year 2000, government employees were given a choice of choosing either of the states for their remaining service. A large number of doctors chose Madhya Pradesh because they belonged to that part. This had roots in the historical distribution of medical colleges in combined Madhya Pradesh. The part which became Chhattisgarh had only one medical college whereas rest of Madhya Pradesh had at least four. When Chhattisgarh got formed, it inherited a large deficit of doctors in its public system.

Table 17 shows the recruitments of regular MOs conducted by Chhattisgarh since its formation. Until 2013, the recruitment rules for regular MOs allowed the State's Public Service Commission (PSC) to carry out selection and appointment. The first recruitment drive was conducted by PSC in the year 2000 and 91 MOs were recruited. After that, PSC recruited 77 and 21 MOs in 2005 and 2009, respectively. During 2010–2012, 125 MOs were recruited on an ad hoc basis, i.e. on contract against regular vacancies. This was done to bypass the PSC which was unable to respond to requests from Department of Health to recruit MOs. In 2013, the State Government notified new selection rules that terminated the role of PSC in selections and allowed the Health Department to recruit MOs on its own.

Table 17: Recruitment drives conducted for MOs

Year of recruitment drive	Recruitment agency	No. of posts advertised	No of MOs recruited	% recruited against advertised
2000	Public Service Commission	Data not available	91	
2005	Public Service Commission	Data not available	77	
2009	Public Service Commission	Data not available	21	
2010-12	Ad hoc posting	Data not available	125	
2014	Health Department	709	128	18%
2016	Health Department	616	214	35%
2019	Health Department	423	239	57%
TOTAL			895	

Source: Data collected from DHS

Table 17 demonstrates that the State was able to recruit 895 regular (and ad hoc) doctors over 18 years. While the State produced around 4000 MBBS graduates in the same period, the DHS recruited 23% of them. This shows that while the production of MOs was not enough, the bigger problem was the ability of the government to attract and recruit the available output, i.e. the absorption capacity was low.

This data show that there were only seven recruitment drives in 18 years. Over last 6 years, DHS has managed 3 drives, i.e. one drive every 2–3 years. The recruitment drives suffered until 2013 because of delays at the State Public Commission which had the mandate and authority to recruit. The State managed to relax these rules in 2013 to improve recruitment. Thereafter, some improvement was observed with an average of one drive every two years. Nevertheless, given the prevalence of high vacancy rates, this can be increased to at least one drive annually.

2.5.2 Are medical graduates willing to join government service? What does recent experience of recruitments tell us?

In 2014, 128 MOs joined against 709 advertised posts. In 2016, 214 MOs joined against 616 advertised posts.

In 2018–2019, 423 posts were advertised, while 345 eligible applicants appeared for allocation of posting location. The deployment (allocation of place of posting) was done based on a merit list (based on marks secured in MBBS). Finally, 239 doctors joined the service. This shows an improvement (57% of advertised posts filled in 2019 compared to 18% in 2014) over the previous two recruitment drives.

Scheme: Chhattisgarh government made a rule in 2011 that all persons enrolling in a MBBS course at government medical colleges will need to serve with the government for a minimum of 2 years after completing the MBBS course. If the doctors break this bond, they have to pay INR 500 000. Around 50% of the MBBS graduates from government colleges choose to serve for 2 years instead of paying the bond amount. The first batch became available in 2016. Between 2016 and 2018, the State got three batches, a total of 390 doctors, through this route. The list of locations is decided by DHS based on the perceived priorities. Most of the doctors recruited through this scheme are currently placed in rural areas, which have a severe shortage of doctors. In the near future, the bond scheme can provide the State around 600 MOs to be on its rolls at any given point in time. Once the 2-year period is over, the doctors who want to continue in government service can get an automatic appointment against a contractual vacancy. One challenge in this method of recruitment is the tendency of many such doctors to focus on preparing for their postgraduate entrance examination at the cost of providing services in the facilities. One suggestion received in an interview was to have a dialogue with the MBBS students during their Internship stage and to proactively convince them that a career in government service will be an excellent choice for them.

Scheme for retired regular doctors to work on contract: This is a recent scheme, started by modifying the Contractual Selection Rules in 2014. Regular doctors retire at age of 65 and they can join on a contract and work till the age of 70. This scheme has not found many takers so far and around 5 doctors have joined.

Salaries and Incentives: Contractual salaries vary from district to district as NHM allows the flexibility. In highly remote districts, the salaries of contractual MOs have been good enough to attract substantial number of doctors, even from other states. However, there are other districts like Bemetara, Gariyaband, etc. which are rural and are not able to get doctors because the salaries decided by NHM for them are lower and hence not attractive.

The salaries for regular doctors have not kept pace with the contractual MOs in the State. The CRMC introduced incentives for serving in remote areas but the incentive amounts have remained stagnant over a decade and hence have lost their attraction to some extent. Table 18 gives a comparison of starting remunerations for regular and contractual MOs in different kinds of districts, by difficulty level.

Table 18: Remuneration of MOs in the State

Group of districts	Salary for contractual MO (in INR)	Remuneration for regular MO (in INR)		
		Salary	CRMC Incentive	Total
Extreme remote/most difficult, e.g. Bijapur, Dantewada, Sukma	90 000	65 000	25 000	90 000
Urban, e.g. Raipur, Durg, Bilaspur	58 000	65 000	0	65 000
Middle difficulty (rural districts), e.g. Bemetara, Gariyaband, Balod, Mungeli	58 000	65 000	0	65 000

Source: Data collected from DHS

Districts need to be grouped into varying levels of difficulty and there should be a significant difference in salaries applicable to the different groups. While the extreme remote group with Dantewada and Bijapur should continue to have the highest remuneration, rural districts like Bemetara, Gariaband, Balod, Mungeli need a major increase if these districts are ever expected to attract doctors.

Increasing salaries seems to be an obvious solution, but approvals from Finance Ministry have not been easy. The State however continues to spend a large subsidy on education of medical graduates but fails to reap its benefit due to poor salaries in regular posts and low absorption capacity. Private practice by government doctors also poses challenges. If the increase in salaries is given in the form of substantial NPA, it may help in curbing the dual practice.

Some remote districts like Bijapur and Dantewada have modeled the way. They have matched adequately attractive salaries with other facilities like accommodation (hostels), canteens, recreation facilities, leave facilities, free transportation and jobs for spouse, etc. along with a good working environment and respect. Recognizing the importance of housing in attracting qualified MOs, the State Government is building 46 transit hostels in tribal districts, with the ability to accommodate 10 staff each. Earlier studies, carried out around 2014, have also emphasized on a mix of financial and non-financial measures to improve retention and to improve the effectiveness of schemes like CRMC (12, 13, 14).

2.6 AMOs

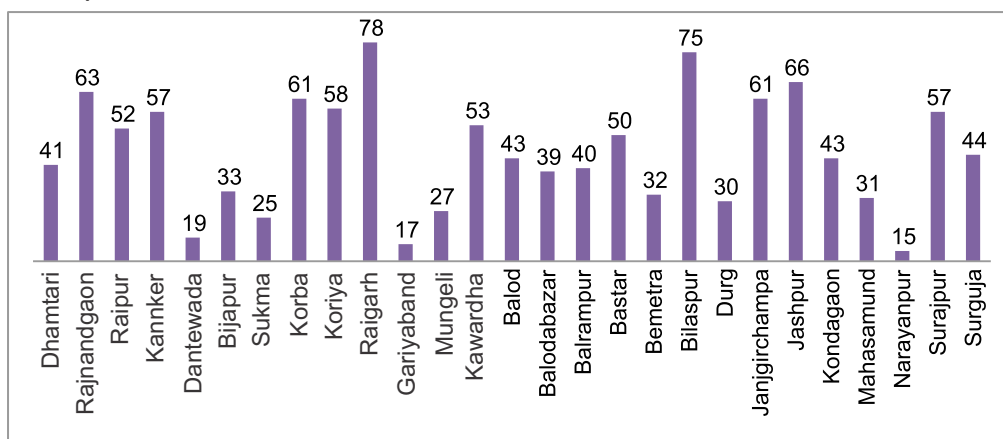
One of the unique features of HRH in Chhattisgarh is the AMO cadre. The State started a diploma course in primary health care in 2001. This course was created to address the severe shortage of doctors at PHC level. It was a 3-year course with 1-year internship in various government health facilities. The course was challenged by the Indian Medical Association (IMA) in the High Court. Although the court is yet to issue any directions in the case, the programme was wound up after couple of batches. A total of 1349 diploma graduates completed the course. Around 40% of the diploma holders are women.

In 2007, Chhattisgarh designed a special cadre called “Rural medical assistant” (RMA) and recruited the above diploma holders in that role. The State approved one RMA post per PHC, i.e. around 800 regular posts. In addition, it got a sanction of around 700 contractual posts from NHM. Around 1210 of the RMAs were recruited – 614 as regular and around 596 as contractual (under NHM). There are less than 60 diploma holders left without government jobs and many are still practising. Some of them may be still interested in a government job. However, around 300 vacancies exist which clearly cannot be filled as the course has been closed.

RMAs manage the medical care in most of the PHCs and in some cases even CHCs. The 1212 AMOs working with the government represent an addition of 0.4 clinicians per 10 000 population.

Fig. 10 gives the geographical distribution of AMOs in the State.

Fig. 10: Geographical distribution of AMOs – regular and contractual together (2018–2019)



The cadre was renamed as AMO in 2016. Each PHC is supposed to have at least one AMO. Around 90% of PHCs have at least one AMO posted. Contractual AMOs have also been placed in PHCs, with around 70% of them being allocated to tribal districts (Table 19).

Table 19: District-wise distribution of regular and contractual AMO

Sl. No	Districts	Total No. of PHCs	Regular AMOs	Contractual AMOs	No. of AMOs/PHC
1	Dhamtari	25	18	23	1.6
2	Rajnandgaon	48	38	25	1.3
3	Raipur	32	30	22	1.6
4	Kanker	34	29	28	1.7
5	Dantewada	13	5	14	1.5
6	Bijapur	13	13	20	2.5
7	Sukma	16	9	16	1.6
8	Korba	37	32	28	1.6
9	Koriya	30	25	31	1.9
10	Raigarh	52	52	26	1.5
11	Gariyaband	17	5	13	1.1
12	Mungeli	28	22	5	1.0
13	Kawardha	26	23	30	2.0
14	Balod	30	17	25	1.4
15	Balodabazar	30	21	18	1.3
16	Balrampur	26	17	22	1.5
17	Bastar	37	25	22	1.3
18	Bemetra	20	12	20	1.6
19	Bilaspur	55	49	26	1.4
20	Durg	25	20	10	1.2
21	Janjgirchampa	46	42	19	1.3
22	Jashpur	34	30	24	1.6
23	Kondagaon	22	20	22	1.9
24	Mahasamund	30	12	20	1.1
25	Narayanpur	8	6	10	2.0
26	Surajpur	37	24	32	1.5
27	Surguja	25	18	26	1.8
	TOTAL	796	614	596	1.5

Source: Data collected from DHS

The AMO cadre has been the backbone of PHCs in the State. They also acted as Mid-Level Healthcare Providers (MLHPs) for the initial set of around 1000 HWCs in the State. They have served the primary health-care needs of the State well, as demonstrated through an evaluation of their skills and contributions (15). They received in service-training as well. Over 10 years of experience has provided them the necessary confidence, experience and acceptability.

AMOs working in contractual positions were getting around 40% less salary for same work as compared to regular AMOs. While the regular AMOs get around INR 40 000 salary per month,

the salary for contractual AMOs was INR 23 000 in 2019. Regular as well as contractual AMOs posted in difficult and most-difficult areas get a monthly incentive of INR 3000 and INR 5000, respectively. The contractual AMOs are not eligible for any social security benefits like pensions, etc. In this cadre, there is a need for the regularization of all AMOs who were working in contractual posts. Another option can be to give them part-time or full-time responsibility of managing HWCs and to mentor the new MLHPs in nearby HWCs. That would allow them to earn an incentive of INR 15 000 per month. If the contractual AMOs are prioritized for this role in HWCs, their total remuneration will become similar to regular AMOs.

2.7 Dental surgeons

2.7.1 Dental surgeon (regular)

In Table 19a, trend for 3 years (2016–2017 to 2018–2019) is given and in Table 19b, trend data for all the districts is given separately. For the year 2018–2019, 112 posts of dental surgeon were approved and 72 (64%) were working against them. The 3-year trend shows that vacancy rate against approved has been reduced from 102 (91%) vacant posts in 2016–2017 to 40 (36%) in 2018–2019. This trend in division-wise data shows that vacancy rates for dental surgeons in all divisions has reduced. The highest vacancy rate was in Bastar (13 vacant posts) and lowest vacancy rate in Bilaspur (0 vacant posts)

2.7.2 Dental surgeon (contractual)

An additional 146 dental surgeons were working under NHM during 2018–2019.

Table 19a: Division-wise regular dental surgeon: approved vs working vs vacant positions in Chhattisgarh – trend for 3 years 2016–2017 to 2018–2019

Year	2016-17			2017-18			2018-19		
	Approved	Working	Vacant	Approved	Working	Vacant	Approved	Working	Vacant
Raipur	69	6 9%	63 91%	69	41 59%	28 41%	68	46 68%	22 32%
Bilaspur	18	3 17%	15 83%	16	13 81%	3 19%	16	16 100%	0 0%
Bastar	14	0 0%	14 100%	18	7 39%	11 61%	18	5 28%	13 72%
Sarguja	11	1 9%	10 91%	9	5 56%	4 44%	10	5 50%	5 50%
Total	112	10 9%	102 91%	112	66 59%	46 41%	112	72 64%	40 36%

Table 19B: Division-wise regular dental surgeons: approved vs working vs vacant positions in Chhattisgarh

District	2016-17			2017-18			2018-19		
	Approved	Working	Vacant	Approved	Working	Vacant	Approved	Working	Vacant
Raipur	6	2	4	6	4	2	6	4	2
Baloda Bajar	5	1	4	5	3	2	5	3	2
Gariyaband	5	0	5	5	1	4	6	1	5
Dhamatari	6	0	6	6	4	2	6	5	1
Kavardha	8	0	8	8	6	2	8	6	2
Mahasamund	7	1	6	7	4	3	7	4	3
Rajnandgaon	10	0	10	10	6	4	9	6	3
Durg	12	1	11	12	6	6	11	9	2
Balod	6	1	5	6	4	2	6	4	2
Bemetara	4	0	4	4	3	1	4	4	0
Raipur Division	69	6	63	69	41	28	68	46	22
Bilaspur	3	1	2	3	3	0	3	3	0
Mungeli	1	0	1	1	1	0	1	1	0
Korba	2	0	2	2	2	0	2	2	0
Raigarh	8	2	6	6	3	3	6	6	0
Janjgir	4	0	4	4	4	0	4	4	0
Bilaspur	18	3	15	16	13	3	16	16	0
Jagadlpur	3	0	3	2	1	1	2	0	2
Kondagaon	2	0	2	2	2	0	2	1	1
Bijapur	1	0	1	1	0	1	1	1	0
Kanker	3	0	3	9	3	6	9	1	8
Dantewada	2	0	2	1	0	1	1	0	1
Sukama	2	0	2	2	0	2	2	1	1
Narayanpur	1	0	1	1	0	1	1	1	0
Bastar Division	14	0	14	18	7	11	18	5	13
Sarguja	4	0	4	2	2	0	3	2	1
Balarampur	1	0	1	2	1	1	3	1	2
Surajpur	2	0	2	2	0	2	1	0	1
Koriya	3	1	2	2	1	1	2	1	1
Jashpur	1	0	1	1	1	0	1	1	0
Sarguja Division	11	1	10	9	5	4	10	5	5
Total	112	10	102	112	66	46	112	72	40

Source: Data collected from DHS

2.7.3 Production of dental surgeons in Chhattisgarh

Number of dental colleges and intake

The State has one government dental college and five private dental colleges. Intake per college is given in Table 19c. The State has a total of 600 intake (100 in the government college and 500 in private colleges). In the government dental college, 82% seats are under state quota. In private dental colleges, 50% seats are reserved under state quota and 50% for management quota. All the six colleges are in urban commercial centres in central Chhattisgarh.

Number of dental colleges and seats

Table 19c: Dental colleges intakes

Government Dental Colleges					
S. No	Location of the College	Total Seats	82% State Quota	All India 15% Quota	Central Pool Quota 3%
1	Raipur	100	82	15	3
Total Seats		100	82	15	3
Private Dental Colleges					
S. No	Location of the College	Total Seats	State Quota	Private Management Quota	NRI Quota
1	Bhilai	100	50	50	--
2	Bilaspur	100	50	50	--
3	Rajnandgaon	100	50	50	--
4	Bilaspur	100	50	50	--
5	Durg	100	50	50	--
Total Seats		500	250	250	--

Source: Data collected from DHS

The vacancy and production data of dental surgeons shows that the State has currently 40 vacant seats of dental surgeons and production is more than 300 seats. They can be filled easily by conducting a recruitment drive.

2.8 Ayurvedic and homoeopathic doctors

The State has a cadre of physicians belonging to the indigenous system of medicine. This cadre is called AYUSH, comprising of five different streams of indigenous medicine. The two main types of doctors in this cadre working in government service in Chhattisgarh are ayurvedic and homoeopathic physicians, though the State now also has a unani and naturopathy college each. State has a total of 1230 approved posts of ayurvedic and homoeopathic physicians including around 250 contractual posts. Of the posts of AYUSH Officers, 919 (75%) are filled and 311 posts (25%) are vacant.

2.8.1 Number of ayurvedic and homoeopathic colleges and intake in Chhattisgarh

The State has 2 government ayurvedic colleges and 9 private ayurvedic colleges. Their intake is given in table 19d. The State has a total 650 ayurvedic seats (120 in government colleges and 530 in private colleges). In government ayurvedic colleges, 82% seats are under state quota. In private ayurvedic colleges, 50% seats are reserved under state quota and 50% for management quota. All the 11 colleges are in urban commercial centres in central Chhattisgarh.

Table 19d: Number of AYUSH colleges and intake in Chhattisgarh

Government AYURVEDIC Colleges		
S. No	Location of the College	Total Seats
1	Raipur-Ayurveda	60
2	Bilaspur—Ayurveda	60
Total Seats		120
Private Ayurvedic Colleges		
S. No	Location of the College	Total Seats
1	Durg-Ayurveda	60
2	Durg-Ayurveda	60
3	Rajnandgaon-Ayurveda	60
4	Rajnandgaon-Ayurveda	60
5	Raipur-Homeopathy	50
6	Raipur-Homeopathy	50
7	Bilaspur-Homeopathy	100
8	Raipur-Unani	40
9	Durg-Naturopathy	50
Total Seats		530

Source: Data collected from AYUSH Department

The availability of the above cadres in government service has made services of indigenous systems available in the public sector. Further, they have helped in ensuring availability of physicians in rural areas where the MBBS physicians are not present. There is a policy of mainstreaming AYUSH at the state and national levels. One feature of the policy is to co-locate allopathic and AYUSH physicians to allow the choice to patients.

2.9 Summary and policy recommendations regarding production and adequacy of MOs in Chhattisgarh

Chhattisgarh has expanded the production of MBBS doctors by increasing the number of medical colleges from one to nine over the past two decades. It needs to increase the intake capacity of the nine colleges to reach a production of around 1500 doctors per year to meet the norms in India. This may be a gradual process due to pervasive shortages of faculty. Measures can be taken to recruit more faculty by offering better salaries as done by many other states in India.

The most notable challenge for the government services is the ability to recruit only a small portion of the State's output of MOs. What prevented the State from recruiting more?

The possible answers seem to be:

- **Unattractive jobs:** There is no policy to have regional quotas to enrol students from remote areas. Such a policy, even if implemented, could face substantial legal challenges, given that the current norm is that most of medical students come from urban backgrounds. Although students from urban areas may be willing to temporarily study in rural areas, this does not necessarily translate into willingness to work in remote areas. Therefore, student background and job location remains an important policy consideration. In order to make jobs in the public sector, particularly those in less desirable locations, attractive, salaries and other benefits need to be improved to align with alternative labour market choices for these graduates. While government spends a large amount in education (around INR 10 million per MBBS graduate), it is unable to capture the benefit of this investment because of the

inability to attract graduates into government jobs. The State has suffered several periods of poor political will when the Finance Ministry did not approve filling of the sanctioned positions or increasing salaries, which has left a marked gap in service provision as noted by the pervasively high vacancy rate across the State.

There has been better success in recruiting in contractual positions due to better salaries allowed by flexible norms of NHM. Districts of Bijapur and Dantewada have shown good examples of successfully recruiting doctors by offering better salaries, better work-environments and other facilities like accommodation, transport, etc.

There was a long delay in implementing the policy on compulsory government service (bond) for MBBS graduates; but now that it has started, it has shown encouraging results.

- Inadequate administrative capacity: This pertains to organizing recruitments and poor experience/ability in hiring professional HR agencies to help with recruitments
- Gaps in recruitment rules: Constraints due to gaps in recruitment rules.

2.9.1 Policy recommendations

- Strengthen production capacity of medical schools
 - o Expand the number of medical seats to 1500 and increase faculty
- Address issue of high vacancy rates
 - o Improve administration of the recruitment process
 - Have regular recruitment drives, at least one drive annually
 - Implement measures to improve recruitment efficiency, e.g. by:
 - using campus selections in the State (including AIIMS) and outside
 - transparent allocation of location of postings
 - offering an attractive career pathway for MBBS graduates who join government, etc.
 - o Regulatory changes: amend the recruitment rules to allow recruitments of regular posts from outside the State.
 - o Increase the attractiveness of the government sector for MOs
 - Increase salaries substantially in regular appointments, including through NPA
 - Increase salaries for contractual positions in some rural districts by using the flexibility already allowed by NHM.
 - District level supplementation for remuneration.
- Improve supportive services and other benefits to improve retention in remote areas
 - o Lay down a policy to encourage and facilitate enrolment of medical students from rural and remote areas in medical studies
 - o Improve financial and non-financial incentives in less desirable locations
 - o Ensure career pathway improved by serving in rural and remote areas:
 - Assign points in PG entrance for MOs serving in tribal areas
 - Sponsor MOs in rural, remote and tribal areas to attend special family medicine courses for MBBS
 - Time-bound transfer option for doctors posted in tribal areas
 - Compulsory posting (around 20% part of career) in tribal areas for every regular MO/specialist
 - Making at least 3-year service in tribal areas compulsory for promotion.
- Improve administration of AMOs
 - o Policy to facilitate transitioning from contractual to regular AMO
 - o Create an attractive career pathway for this cadre
 - o Invest further in their skills.

Chapter 3: Adequacy of production and recruitment of specialist doctors in Chhattisgarh

This chapter aims to examine the factors driving the shortage of medical specialists in Chhattisgarh. Specialists have a postgraduate qualification – either degree or diploma in any branch of medical specialty.

Specialists are initially recruited in regular and contractual appointments. The Recruitment Rules in Chhattisgarh do not have a provision for direct recruitment into specialist cadre. Therefore, the specialist cadre is a promotion post. Doctors with PG qualifications are recruited as MOs and after five years of service, they are eligible to be promoted as specialists. For contractual posts, direct recruitment as specialists is allowed.

The number of specialists working in DHS in the State is presented in Table 20. It shows that there are only 180 specialists working in the DHS; around a quarter of these are working under contractual appointments.

Table 20: Specialists working in State in 2018

Nature of Appointment	Number	Percentage
Regular	132	72%
Contractual	48	28%
Total	180	100%

Source: Data collected from DHS

3.1 Specialists (regular appointments) under DHS

Gender-wise distribution of regular specialists shows that 81% are male and 19% female. Category-wise distribution of specialists (regular) in 2018–2019 shows that general are 59%, OBC 1%, SC 17% and ST are 23%.

The overwhelming feature is the high vacancy rate of around 90%. In Table 21, the trend for three years (2016 to 2018) is given; and in Table 22, trend data for all the districts is given. In the past three years, 31 specialists left government jobs, an attrition of around 20% over three years.

Table 21: Division wise regular specialists: approved vs working vs vacant positions in Chhattisgarh

Year	2016			2017			2018		
	MOs			MOs			MOs		
	Approved	Working	Vacant	Approved	Working	Vacant	Approved	Working	Vacant
Raipur & Durg	568	91	477	583	89	494	610	65	545
		16%	84%		15%	85%		11%	89%
Bilaspur	283	41	242	350	45	305	351	31	320
		14%	86%		13%	87%		9%	91%
Bastar	293	14	279	303	18	285	321	20	301
		5%	95%		6%	94%		6%	94%
Sarguja	251	17	234	289	23	266	311	16	295
		7%	93%		8%	92%		5%	95%
Total	1395	163	1232	1525	175	1350	1593	132	1461
		12%	88%		11%	89%		8%	92%

Source: Data collected from DHS

Raipur and Durg divisions together had a relatively higher number of working specialists, whereas the vacancies were highest in the less developed regions of Bastar and Sarguja.

Table 22: Districtwise regular specialist: approved vs working vs vacant positions in Chhattisgarh

District	2016			2017			2018		
	Mos			Mos			Mos		
	Approved	Working	Vacant	Approved	Working	Vacant	Approved	Working	Vacant
Raipur	79	34	45	79	21	58	79	24	55
BalodaBajar	47	3	44	48	1	47	55	3	52
Gariyaband	52	3	49	52	6	46	52	2	50
Dhamatari	38	4	34	44	2	42	47	3	44
Kavardha	49	6	43	49	6	43	49	4	45
Mahasamund	41	3	38	44	7	37	48	2	46
Rajnandgaon	92	11	81	92	14	78	92	8	84
Durg	94	18	76	94	24	70	94	14	80
Balod	43	4	39	44	8	36	54	3	51
Bemetara	33	5	28	37	0	37	40	2	38
Raipur and Durg Division	568	91	477	583	89	494	610	65	545
Bilaspur	57	15	42	94	20	74	94	10	84
Mungeli	26	4	22	44	6	38	44	4	40
Korba	39	8	31	50	2	48	51	4	47
Raigarh	86	10	76	86	13	73	86	10	76
Janjgir	75	4	71	76	4	72	76	3	73
Bilaspur Division	283	41	242	350	45	305	351	31	320
Jagadalpur	70	3	67	70	7	63	70	1	69
Kondagaon	37	2	35	42	2	40	47	7	40
Bijapur	40	1	39	40	2	38	42	1	41
Kanker	65	7	58	65	6	59	65	7	58
Dantewada	38	0	38	38	1	37	42	0	42
Sukama	22	0	22	27	0	27	29	1	28
Narayanpur	21	1	20	21	0	21	26	3	23
Bastar Division	293	14	279	303	18	285	321	20	301
Sarguja	48	6	42	68	4	64	79	6	73
Balarampur	47	0	47	51	0	51	62	1	61
Surajpur	59	1	58	60	4	56	60	0	60
Koriya	43	7	36	43	5	38	43	5	38
Jashpur	54	3	51	67	10	57	67	4	63
Sarguja Division	251	17	234	289	23	266	311	16	295
Total	1395	163	1232	1525	175	1350	1593	132	1461

Source: Data collected from DHS

Table 23 shows the specialty-wise classification of regular specialists working in the State.

Table 23:-Specialty-wise classification of regular specialists under DHS in 2018

Specialty	Numbers
Anesthesia	6
ENT	8
Internal Medicine	27
Obstetrics and Gynaecology	19
Ophthalmology	6
Orthopedics	6
Pathology	8
Pediatrics	24
Radiology	6
Surgery	22
Total	132

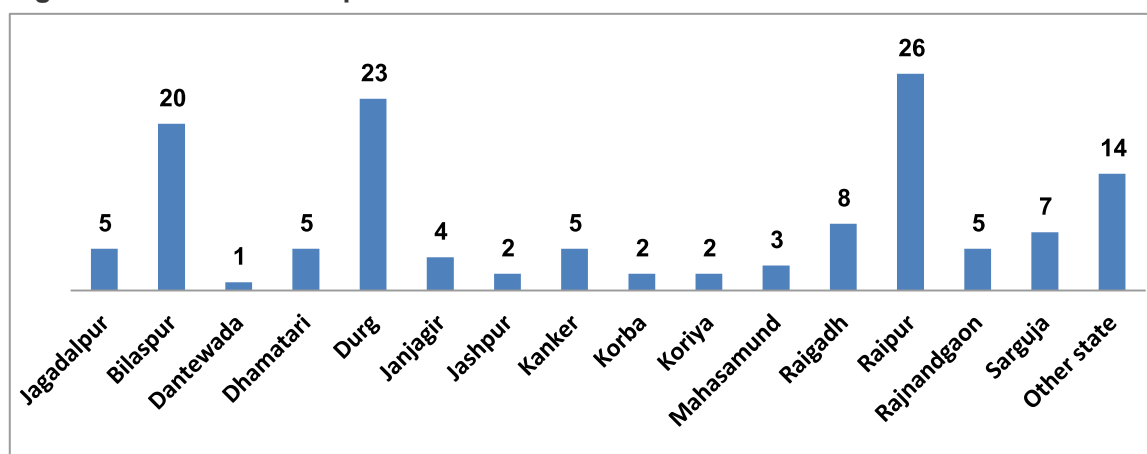
Source: Data collected from DHS

Out of the 132 regular specialists under DHS, 104 are deployed in DHs. The vacancy rate in DHs is 89% whereas it is even worse for CHCs, at 96%.

3.1.1 Home district of specialists (regular)

Fig. 11 shows the home districts (permanent address) of the working specialist. Out of 132, 69 specialists (52%) are from three urban districts of the State, i.e. Raipur, Durg and Bilaspur. There are very few specialists belonging to tribal districts.

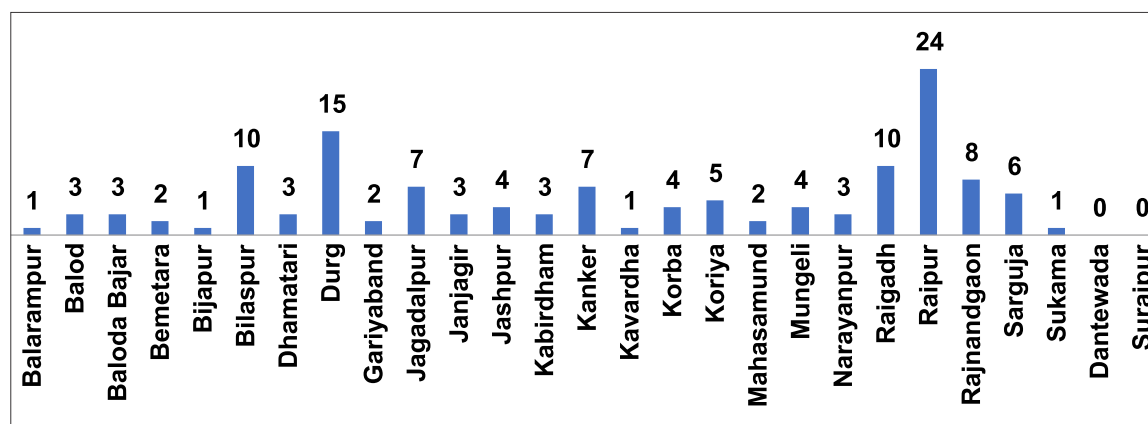
Fig. 11: Home district of specialists



3.1.2 Geographical distribution of regular specialists under DHS

Fig. 12 shows the geographical distribution of posting of specialists in the State. Fifty-nine (45%) are posted in four districts, i.e. Raipur, Durg, Bilaspur and Raigarh. Dantewada and Surajpur have no regular specialist posted. In five tribal populated districts, only one regular specialist is posted.

Fig. 12: Geographical distribution of specialists 2018



3.2 Specialists (contractual appointments) under DHS

Table 24 gives the data of specialists (contractual) posted under NHM in different programmes in 2018–2019. There were 48 (35%) working specialists as against 133 approved contractual posts.

Table 24: Specialist (contractual) posted under NHM 2018–2019

Programme	Sanctioned posts of specialists NHM-PIP–2018	Filled posts of specialists
NHM (contractual posts)	100	41 (41%)
RBSK (DEIC)	7	0 (0%)
SNCU – Paediatrics	26	7 (27%)
Total	133	48 (35%)

RBSK – Rashtriya Bal Swasthya Karyakram; DEIC – district early intervention centres; SNCU – sick newborn care unit

Source: Data collected from NHM

Out of the 48 contractual specialists, nine are deployed in CHCs and remaining in DHs. The low number of specialists in CHCs undermines the capacity of these hospitals to deliver essential services. For example, only 9% of CHCs performed C-sections on a monthly basis in 2018.

3.3 Availability of specialists

3.3.1 Bond scheme

Similar to the MBBS, there is a bond scheme for specialist doctors once they finish postgraduate degrees from government medical colleges in Chhattisgarh. The bond amount for them is INR 5 million (approximately 70 000 US dollars). Most of the postgraduate (PG) doctors do not choose to pay the bond amount and prefer to serve the bond of two years. One hundred twenty-eight such PG doctors were recruited from 2016 to 2018. Around 120 of them belong to clinical streams. These are in addition to the regular and contractual cadre specialists.

3.3.2 Regular MOs having qualification of specialist

There are 431 MOs in DHS who have PG qualification but are working as MOs. Out of them, 309 (72%) are males and 122 (28%) are females. Category-wise distribution shows that general are 45%, OBC 8%, schedule caste 18%, schedule tribe 29%. Ten percent (44) of them belong to the neighboring state.

Out of the 431 MOs who have PG qualification, a significant proportion is deployed in CHCs and even PHCs and less than half in DHs. PG doctors posted in generalist roles risk losing their skills. They resent delays in promotions. They also resent being assigned tasks like night duties, which are usually meant for non-specialist MOs. At the same time, there is a possibility that some PG doctors prefer PHC-based postings close to urban centres as it allows them an opportunity to live in urban centres and engage in dual practice.

Their specialty wise distribution and gender distribution is given in Table 25.

Table 25: Regular MOs having qualification of specialist

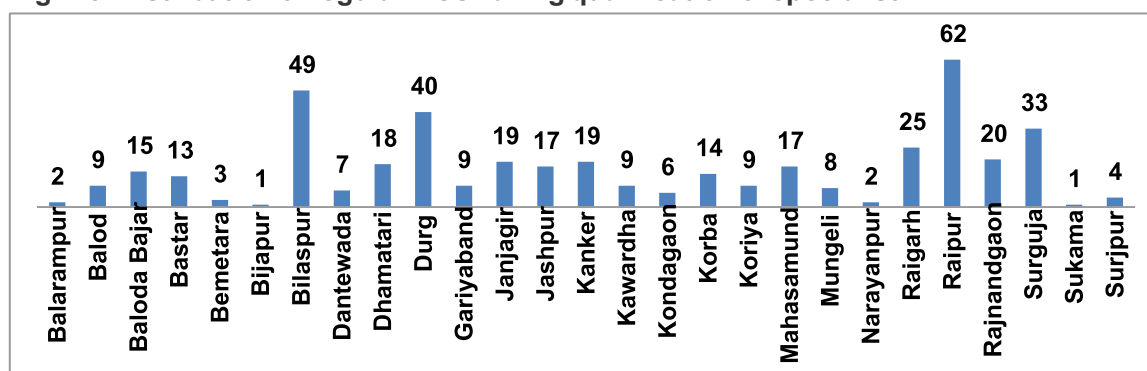
Specialty	Female – 122 (28%)	Male – 309 (72%)	Total – 431
Orthopedics	1	66	67
Paediatrics	14	38	52
Gynecologist	37	13	50
ENT	12	35	47
Medicine	7	32	39
Anesthesiologist	12	26	38
Ophthalmologist	19	16	35
Pathologist	4	27	31
Surgery	4	23	27
Radiologist	6	16	22
Community medicine	5	4	9
Anatomy	1	3	4
Pharmacology	0	3	3
PHM	0	2	2
MCH/HHM	0	1	1
Dermatologist	0	1	1
Others	0	3	4

PHM – population health management; MCH – master of chirurgiae; HHM –

Source: Data collected from DHS

Fig. 13 data shows that total 102 of the 431 such PG doctors are posted in three urban districts, i.e. Raipur 62, Bilaspur 49 and Durg 40.

Fig. 13: Distribution of regular MOs having qualification of specialist



3.3.3 Number of specialists working in DME

In DME, against 1500 positions, around 900 specialists are working in tertiary hospitals attached to medical colleges. The vacancy rate is 40%.

3.3.4 Total availability of specialists in Chhattisgarh

Around 1611 specialists are working with the health department. Around 150 specialists are also working in the Central Government institution (AIIMS Raipur). Chhattisgarh has many public sector industries (South Eastern Coalfields Limited, National Mineral Development Corporation, National Thermal Power Corporation, Steel Authority of India Limited, etc.) with their own

hospitals with around 100 specialist doctors. Thus, the total number of specialists working in government employment currently (in 2019) is around 1861. No records are available on the number of specialist doctors working in private sector in Chhattisgarh. There is no separate system of registration of PG doctors as specialists. A rough estimate according to key informants in DME was that the State is likely to have around 1000 to 2000 specialists in private sector with ongoing in-migration from other states and an average of 1500 was taken as the best estimate available for 2018–2019. As shown in Table 26 below, Chhattisgarh has an estimated total number of 8497 allopathic doctors with 3461 specialists (41%). This calculation has the assumption that 431 PG doctors working as MOs under DHS are given specialist roles. The MOs/specialist ratio in Chhattisgarh is around 1.5:1. However, if we do not consider the 431 as specialists, the proportion of specialists in total allopathic doctors comes down to 35% and MO/specialist ratio becomes 1.8:1.

Of the total number of doctors working in the government sector, 52% are specialists. This represents a high proportion and suggests that more MBBS doctors need to be recruited.

Table 26: Number of government PG and non-PG allopathic doctors in Chhattisgarh

SI	Type of Employment	Total No. of allopathic doctors	Specialist doctors (with PG)	MBBS doctors (without PG)
1a	Mos under DHS (State Government, including contractual appointments under NHM)	1366	180 (132+48)	1186
1b	Doctors in MO cadre, with PG qualifications working under DHS	431	431	
2	Doctors under DME (State Government)	995	900	95
3	Mos working in DHS under 2-year bond for MBBS and PG education	400	100	300
4	Doctors in AIIMS (Central Government)	305	200	105
5	Doctors in hospitals owned by public sector units (industrial organisations owned by Central Government)	300	150	150
	Total in government/public sector	3797	1961 (52%)	1836 (48%)
	Private sector	4700	1500	3200
	Total (public + private sector)	8497	3461	5036

The highly skewed geographical distribution of specialists in public and private sectors is an issue of concern. Recently, the remote or tribal districts have filled some of the gap through contractual recruitments, which allow higher salaries for some remote districts.

3.3.5 How many more specialists the state government needs currently

Under DHS, 132 regular, 48 contractual and 431 PG doctors are working. Another 100 specialists are working at any point of time through the bond scheme. Thus, around 711 specialists are working under DHS (against around 1726 posts) and around 900 under DME (against around 1500 posts). Putting DHS and DME together, the State has around 1611 vacancies of specialists against 3226 posts, giving a vacancy rate of around 50%. This calculation has the assumption that 431 PG doctors working as MOs under DHS are given specialist roles. On the contrary, if we consider all of them as non-specialists, the vacancy rate goes up to 63%.

3.4 Supply of specialists in Chhattisgarh

3.4.1 Production of specialists

Chhattisgarh has one state government college at Raipur which has 116 PG intake annually, including degree and diploma. One Central Government institution at Raipur (AIIMS) has also

started PG course with 100 seats intake in 2018 and the first batch will graduate soon. In addition, the State has 14 diploma (National Board) PG seats in 11 different medical institutions. There are no PG seats in private medical colleges so far.

Therefore, once the new batches from the new government institution are produced, 241 PG seats/year will be available. This represents 0.95 specialists trained per 100 000 population per year. The national rate for India is 3.1/100 000. Sri Lanka has a similar rate as Chhattisgarh with 0.93/100 000.

3.4.2 Efforts to attract, recruit and retain specialist doctors

The DHS does not have “specialist” as entry level cadre. Thus, there are no direct recruitments of regular specialists for DHs or CHCs. Doctors with PG degrees are recruited as MOs. According to State rules, an MO with PG degree or diploma can be promoted to a specialist after completing a minimum of 5 years of government service. There are often delays in organizing the administrative procedures for promotions. That is why the State has only 132 regular cadre specialists, whereas another 431 work as MOs while having PG qualifications. The salary difference between a regular MO and a regular specialist is of two increments, i.e. a specialist earns around 20% more than an MO with similar length of service. This differential does not match with that in the private sector. According to key informants, private sector offers around 70% to 100% higher salaries to specialists over non-specialist doctors, on average. While a government salary of INR 60 000 to 80 000 per month is attractive to get MBBS doctors in central urban areas of the State, a salary of around INR 120 000 to 150 000 is attractive for a specialist.

The DME recruits specialists directly for the State’s tertiary hospitals and teaching role in medical colleges. Its vacancy rate, though better than DHS, is still significant at 40%. DME’s procedures of recruitment are highly bureaucratized. The salaries are not attractive either.

Contractual recruitment has been more successful in attracting specialists in remote districts, due to: (i) direct recruitment as specialists; (ii) better salaries allowed by NHM in some of the remote districts; and (iii) flexibility to recruit specialists from other states. Most of 48 contractual specialists have been recruited in the last five years. There is a walk-in system in the state unit of NHM for contractual specialists. They can walk in on all Mondays. Thus, there is a relatively less bureaucratic procedure available for contractual posts. Yet, till 2018, only 35% of the contractual posts were filled up. This relates to two reasons: (i) there is no proactive effort to recruit specialists, e.g. through campus interviews within and outside the state; and (ii) the salaries are not attractive, barring a few remote districts.

3.4.3 Task-shifting

The State was among the first in the country to start a multi-skilling course to train MBBS MOs to gain skills in anesthesia and obstetrics in order to expand availability of C-section facilities in many DHs and CHCs. It was later taken up by NHM as a national policy. The policy has been successful in training some MOs but is only partially successful in translating into better availability of C-section facilities. The trained MOs need much more support to gain the confidence to perform.

Recently, DHS has started a 3-month course in paediatric skills for MOs, implemented through collaboration with AIIMS. The scheme is meant to train 24 MOs in paediatrics annually. This needs to be evaluated in due course, but some lessons are available from the earlier attempts with obstetrics care: (i) finding ways to ensure continued mentoring; (ii) after training, giving postings in relevant locations where there is a need; (iii) posting in centres where matching complementary skills are present; (iv) providing indemnity cover to newly trained doctors so as to reduce their apprehensions; and (v) offering incentives for performance above a minimum level.

3.5 Policy recommendations

The problem of shortage of specialists in the public sector is mainly attributable to the inability of the system to attract doctors. Current salaries are not attractive enough to attract and retain specialists in the public sector. The production of specialists is also much lower than the Indian

average, so there is also scope for increasing the annual production of specialists. However, the increase in the production should be accompanied by an improvement in the salary and working conditions of the specialists so that the government sector is an attractive option for specialists. Government medical colleges in many states in India, (e.g. Madhya Pradesh, Odisha) with severe shortages have used the strategy to attract specialists as faculty.

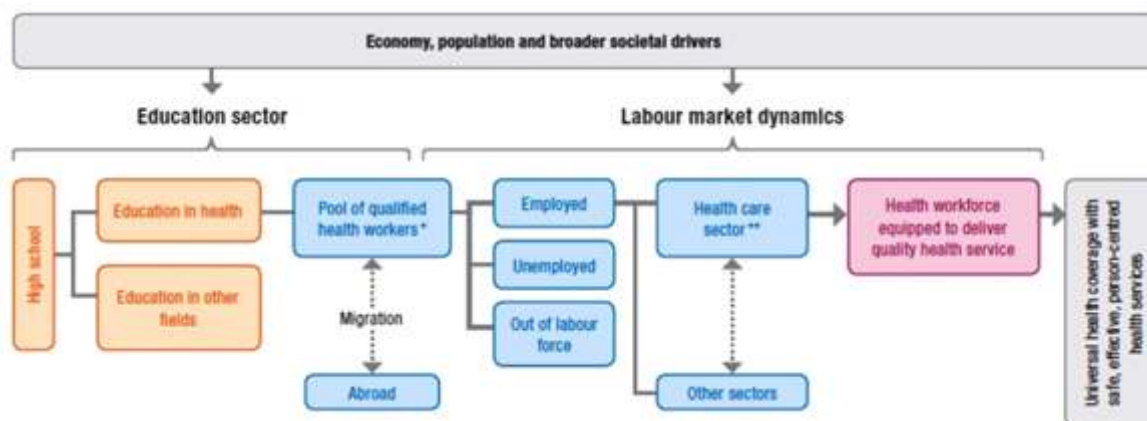
Policy recommendations

- Strengthening the production capacity of specialists through diploma courses and DNB
 - Addressing issue of high vacancy rates
 - ❖ improving administration of the recruitment process:
 - direct recruitments as specialists in regular appointments of DHS by modifying selection rules
 - campus selections, including from other states.
 - ❖ Increasing the attractiveness of the public sector for specialist roles:
 - Increasing salaries substantially in regular appointments, including through NPA route:
 - Increasing salaries for contractual positions in some rural districts by using the flexibility already allowed by NHM:.
 - District level supplementation for remuneration.
 - ❖ Improving supportive services and other benefits to improve retention:
 - Increase salary and benefits;
 - Attractive career progression.
- Address unmet need for specialist care
 - ❖ Introduce task-shifting from specialists to MOs in DHs and CHCs. MOs to be trained in most common surgeries and diagnosis and treatment of common diseases and given permission to perform these procedures:
 - ❖ Deploying family medicine specialists and other multiskilling courses especially in CHCs that are appropriately paid and incentivized:
 - ❖ Adopt the NHM flexible norms for engaging specialists. Fixed days of visiting specialists, case-based payments, etc.

Chapter 4: Adequacy of production and recruitment of nurses in Chhattisgarh

This chapter examines the issue of adequacy between the production and recruitment of nurses in Chhattisgarh. To that end, the absorption capacity, i.e. how well health-care workers are integrated into the health system, is reviewed as for MOs and specialists on the HLM framework presented in Fig. 14.

Fig. 14: HLM Framework



This chapter analyses data collected from DHS, DME, State Nursing Council and NHM, Chhattisgarh.

4.1 Main types of nurse cadres in Chhattisgarh

The state has two main types of nurse cadres – one is called staff nurse (SN) and the second is called auxiliary nurse midwife (ANM).

4.2 Staff nurses

For SN, qualification is obtained either through: (i) a 4-year degree – Bachelor of Science in Nursing known as B.Sc. or (ii) General Nurse Midwife (GNM), a three and a half years diploma course. SNs are posted in PHCs or inpatient facilities. Most SNs traditionally focus on inpatient care, especially maternity cases, and some of them assist MOs in outpatient care. SNs are mostly women but men can also become SNs.

The second nursing cadre is ANM. It is a 2-year diploma course and only women can join it. Their official position is also known as ANM or rural health organizer or multi-purpose worker (female). ANMs are involved in primary care and public-health components of reproductive, maternal, child health and disease control programmes. Components of child immunization, ANC and family planning have traditionally been the dominant part of their work. ANMs are mostly posted in sub-health centre (SHC), each covering 3000 to 5000 population. ANMs spend around half of their time in outreach sessions.

4.2.1 Appointments for SNs in public sector, Chhattisgarh

In Chhattisgarh, SNs are recruited under two different kinds of appointments – regular and contractual. Regular are permanent posts of state health department and are fully funded by the state budget. Contractual positions are approved and funded by the NHM, in which the Central Government bears major part of the salary cost.

The number of SNs working under the DHS in Chhattisgarh is given in Table 27.

Table 27: All posts of SNs working under the DHS in 2018–2019

Nature of appointment	Number	Percentage
Regular SN	2724	68.5%
Contractual SN	1251	31.5%
Total	3975	100%

Source: Data collected from DHS

There has been some success in increasing the number of approved positions for SNs, but vacancy rates have also increased.

For SNs with regular appointments, the trend over the past three years (2016 to 2018) is given in Table 28 and trend data for all the districts is given in Table 29.

The data show that Raipur and Durg divisions have the highest numbers of working SNs against approved posts. While Raipur and Durg divisions had the lowest vacancy rate, i.e. 37% in 2018, they experienced the largest increase in vacancy rate between 2016 and 2018, from 64 to 653 vacant posts. In terms of overall vacancy rate, Bastar division had the highest vacancy rate, estimated at 60% in 2018.

Overall, the total number of SNs working in regular appointments has remained stagnant at around 2700 between 2016 and 2018. From a HLM perspective, it is interesting to note that while the number of working nurses has remained stable over the years, the number of approved posts has increased from 3275 to 4803. As a result, the vacancy rate has substantially risen from 16% to 43% over this period. Vacancy rates have increased in all divisions. The vacant posts mostly reflect the creation of new posts. The posts were increased in PHCs, to allow round the clock services for deliveries by having 3 SNs instead of the earlier sanction of one nurse each per PHC. This substantial number of vacant posts is largely due to the lack of capacity for effective staff recruitment. This particular issue is discussed later in the chapter.

Table 28: Regional (division-wise) regular SNs: approved vs working

District	2016			2017			2018		
	Approved	Working	Vacant	Approved	Working	Vacant	Approved	Working	Vacant
Raipur & Durg	1314	1250	64	1589	1094	495	1783	1130	653
		95%	5%		69%	31%		63%	37%
Bilaspur	708	519	189	1068	575	493	1112	626	486
		73%	27%		54%	46%		56%	44%
Sarguja	633	522	111	818	518	300	925	577	348
		82%	18%		63%	37%		62%	38%
Bastar	620	451	169	867	393	474	983	391	592
		73%	27%		45%	55%		40%	60%
Total	3275	2742	533	4342	2580	1762	4803	2724	2079
		84%	16%		59%	41%		57%	43%

Source: Data collected from DHS

A more detailed view is presented in Table 29, which provides information on approved posts, working nurses and vacant posts at district level.

District-wise data for year 2018 in Table 29 shows very high vacancy rates in Bastar division districts (Kondagaon 77%, Bijapur 69%, Sukma 63%, Kanker 62%, and Narayanpur 56%), whereas it was better in Durg 9%, Raipur 13% and Koriya 17%. It also demonstrates the

variability in the distribution of SNs across districts. Within remote and tribal districts, Dantewada and Narayanpur are better off at 2.4 SNs per 10 000 compared to Kondagaon at 0.7 per 10 000. Among the less remote districts, rural districts like Bemetara at 0.6 SNs per 10 000 were far behind Dhamtari at 1.5 SNs per 10 000.

Table 29: District wise regular SNs in Chhattisgarh 2018

District	No. of Sanctioned Posts	Working	Vacant	% Vacant	Sns per 10 000 Population
Balarampur	161	63	98	61%	0.9
Balod	133	98	35	26%	1.2
BalodaBajar	192	93	99	52%	0.7
Bastar	144	84	60	42%	1.0
Bemetara	129	49	80	62%	0.6
Bijapur	120	37	83	69%	1.4
Bilaspur	263	181	82	31%	0.9
Dantewada	133	69	64	48%	2.4
Dhamatari	196	120	76	39%	1.5
Durg	244	222	22	9%	1.3
Gariyaband	134	53	81	60%	0.9
Janjgir	266	141	125	47%	0.9
Jashpur	247	156	91	37%	1.8
Kanker	250	96	154	62%	1.2
Kawardha	182	84	98	54%	1.1
Kondagaon	173	39	134	77%	0.7
Korba	169	114	55	33%	0.9
Koriya	144	120	24	17%	1.8
Mahasamund	139	95	44	32%	0.9
Mungeli	121	50	71	59%	0.7
Narayanpur	77	34	43	56%	2.4
Raigarh	293	140	153	52%	0.9
Raipur	186	161	25	13%	0.7
Rajnandgaon	248	155	93	38%	1.0
Sarguja	245	140	105	43%	1.7
Sukama	86	32	54	63%	1.3
Surajpur	128	98	30	23%	1.2
Total	4803	2724	2079	43%	1.1

Source: Data collected from DHS

4.2.2 Contractual SNs

The state has 1251 SNs posted under NHM in different programmes, against 1699 vacancies (Table 30).

Table 30: SN (contractual) posted under NHM 2018

Programme	Filled posts of Sns
NHM (contractual posts)	666
Rashtriya Bal Swasthya Karyakram (National Child Health Programme) – district early intervention centres	7
Nutrition rehabilitation centres	302
Special newborn care units	275
Total	1251

Source: Data collected from NHM

4.2.3 Total SNs working in health department

If we combine regular and contractual SNs, there were 3975 SNs working in Chhattisgarh in 2018. DHS recruited 800 SNs in early 2019 against 900 posts advertised. Another 200 were recruited in contractual posts. Thus around 5000 SNs were working in DHS against 6500 approved posts in 2019. The vacancy rate was around 25%. Under DME, 1600 SNs were working against 3100 positions. The vacancy rate in DME was around 50%. Thus, around 6600 SNs were working against 9600 state government posts.

The growth of private nursing schools has led to a substantial increase in the number of nurses but there are concerns about quality of education and unemployment.

4.2.4 Total number of registered nurses in Chhattisgarh

From 2013 to August 2018, 13 649 SNs (B.Sc/GNM) were registered with the State Nursing Council (Table 31). The trend shows a threefold increase from 2013 to 2018 in annual production of SNs. There was a temporary drop in registration of GNMs in 2017 due to administrative delays.

Table 31: Nurses registered under state nursing council Chhattisgarh

Category	2013	2014	2015	2016	2017	August 2018	Total registered nurses (2013–2018)
GNM	367	442	807	1313	488	1208	4625
B.Sc.	765	1079	1111	2181	2212	1684	9024
Total	1132	1521	1918	3494	2700	2892	13649

Source: Data collected from Nursing Council of Chhattisgarh

Table 31 reflects a large mushrooming of private nursing colleges around 2011–2012 when the State allowed a large number of private sector entrepreneurs to set up private colleges.

4.2.5 Production of nurses in Chhattisgarh

Table 32 shows that state has a total of 84 GNM and 87 B.Sc. nursing colleges and has a total intake of 6635 (GNM 2439 and B.Sc 3780) in 2018. Around 90% of the production is from private colleges.

- 84 GNM colleges – government (14) and private (70)
- 87 B.Sc. nursing colleges – government (8) and private (79).
- Raipur division has the highest number of colleges and production of nurses (1960) followed by Durg (1840) and Bilaspur (1060).

Table 32: SN Intake in Nursing Colleges in Chhattisgarh – 2018

S.No.	Division	GNM				B.Sc nurse				Total no of seats
		No. of colleges	No. of seats	No. of colleges	No. of seats	No. of colleges	No. of seats	No. of colleges	No. of seats	
1	Surguja	14	430	2	90	11	440	1	40	1000
2	Durg	15	580	1	30	21	1110	3	120	1840
3	Bilaspur	12	395	3	75	14	490	2	100	1060
4	Raipur	21	780	3	70	24	1060	1	50	1960
5	Bastar	8	240	5	165	9	310	1	60	775
6	Total	70	2425	14	430	79	3410	8	370	6635

Source: Data collected from Nursing Council of Chhattisgarh

While the large increase in production of nurses has improved availability in the open market, the new concerns are regarding poor quality in nursing education in private colleges and the glut in the open market, leading to poor remuneration for SNs by private sector medical establishments. The State Government has set norms for minimum quality that private colleges need to fulfil to secure annual approval from the State Government (State Nursing Council) and also from the national level Nursing Council. However, there has been limited capacity to implement quality checks effectively.

According to National Health Profile, there were 13 048 registered nurses in Chhattisgarh up to 2016 (30). This does not include the nurses who registered before the formation of the state. According to key informants in the State Nursing Council, around 3000–4000 nurses were expected to be working in Chhattisgarh at the time of its formation. In three years between 2017 and 2019, around 9000 nurses have graduated. Altogether, it is estimated that the state has around 25000 qualified SNs (B.Sc. and GNM put together). Around 6600 of them work with the State Government, around 2000 with other public sector hospitals (owned by Central Government or public sector industries) and 6000 to 9000 are estimated to be working in the private sector. This leaves around 7000 SNs who are unemployed, including some who are no longer in the labour market. According to the State Nursing Council, there is no significant out-migration of nurses from Chhattisgarh because most other states also have issues of over production.

The estimate of current number of qualified nurses in Chhattisgarh has been triangulated using another estimate based on a different set of data sources and assumptions. There were around 3000 nurses working in Chhattisgarh at the time of its formation. Between the years 2000 and 2012, another 8000 nurses were added, at a modest average rate of around 667 nurses per year. From 2013 to August 2018, data is available from State Nursing Council and that shows 13 649 nurses getting registered in this period (Table 31). From September 2018 to August 2019, addition of around 3000 nurses is expected, similar to 2018. This brings the total number of nurses to around 27 000, which is close to the earlier estimate of 25 000 nurses.

4.3 Addressing the paradox of having vacancies and a potential overproduction

Why do a large number of government vacancies co-exist with excess production of SNs? This question requires examination of two sub-questions: (a) Are there enough SNs being produced for tribal regions and for ST category of vacancies? (b) Have the government's efforts to recruit SNs been adequate?

4.3.1 Registered number of scheduled tribe nurses in the State

In Chhattisgarh, around one third (31.8%) of the population belongs to schedule tribes (STs). The southern and northern divisions in the State are predominantly ST populated and many districts have 50% reservation for ST candidates. In Sarguia and Bastar divisions in 2017, a total 840 nurses were registered. Of this, 423 (50.3%) were STs whereas total vacancy of nurses in these two divisions was 421 (Table 33). This shows that the State has enough production of SNs

including in ST category. This would suggest that enough SNs are being produced, at least to fill current vacant positions.

Table 33: Number of ST nurses registered in the State in 2017

Division	District	Total vacancy	Registered B.Sc. & GNM nurses in 2017	Registered ST B.Sc. & GNM nurses in 2017
Sarguja	Jashpur	46	177	166
	Sarguja	9	73	50
	Koriya	13	79	23
	Balrampur	67	31	22
	Surajpur	39	57	20
Bastar	Bijapur	25	30	11
	Narayanpur	31	31	10
	Jagdapur	2	101	34
	Dantewada	15	52	19
	Kanker	66	127	32
	Sukma	37	16	7
	Kondagaon	71	66	29
Total		421	840 (100%)	423 (50.3%)

Source: Data collected from Nursing Council of Chhattisgarh

4.3.2 Regional production and vacancies of SNs

All the divisions appear to have enough production capacity to fill their vacancies within a year or two. However, relying only on public institutions will not be enough to rapidly close the gap. Indeed, out of the 3780 seats, only 370 are from the public sector, while the remaining 3,410 are from private institutions. Also, the private health sector is an important source of employment for nurses as an estimated 6000 to 9000 nurses are employed in the private sector where wages are lower than in the public sector.

Table 34 gives the division-wise vacancy and production of BSc. nursing

Table 34: Division wise vacancy and production of BSc. nursing

Division	Approved	Working	Vacant	No. of seats	No. of colleges
Raipur & Durg	1783	1130	653	2340	49
Bilaspur	1112	626	486	590	16
Sarguja	925	577	348	480	12
Bastar	983	391	592	370	10
Total	4803	2724	2079 (55%)	3780 (100%)	87

Source: Data collected from DHS

Based on the above aspects, it clearly appears that the vacancy issue is not a supply problem. DHS has around 25% vacancies, but mainly in tribal areas. DME has around 50% vacancies, which is surprising because these posts are in urban areas. Further, most of the vacancies are in regular appointments which by most accounts are considered very attractive. The salaries in regular appointments are nearly double of what government pays for contractual positions. The salaries in government are far better than what private sector pays to SNs. Retention of SNs has not been a challenge with very little attrition in regular Sns.

While in many cases the lack of attraction for the vacant posts does not seem to be the main issue, issues with the recruitment process for SNs appear to be a serious problem. Due to gaps

in capacity of directorates to organize examinations involving a large number of candidates, the health department depends upon another government agency, the Vocational Examination Board, to conduct the examination. This is a time-intensive process. The second hurdle is getting the requisite permission from the Finance Ministry every time a recruitment drive has to be organized. There have been four recruitment drives for regular SNs in the last 10 years. Annual drives are needed but tend to get delayed due to administrative gaps.

As for SNs, the health department depends upon the Vocational Examination Board also for regular ANM recruitments. Another constraint is due to mandatory clearance needed from Finance Ministry.

Currently, most SNs are trained and recruited for inpatient care in facilities with focus on maternal care. Considering the HRH needs of the State and the excess availability of SNs in the open market, should the State promote more SNs to obtain additional qualifications and skills as nurse practitioners? Should it encourage them to gain skills in other crucial areas like emergency care, mental health, etc.? In this context, the recruitment of SNs into bridge course for MLHPs for HWCs is a good example. Among the cadres allowed to go for the 6-month bridge course for MLHP role, the state chose SNs. The State has recruited around 600 SNs into the bridge course so far, over three recruitment drives. The recruitment of SNs into a bridge course for MLHP for HWCs as well will also offer new professional perspectives for SNs and absorb part of the oversupply of nurses.

4.3.3 Government schemes to sponsor CHWs and tribal girls for nursing courses

The state government had adopted a policy of sponsoring eligible mitanin CHWs for ANM, GNM and B.Sc. nurse courses. This was recognized as a national best practice by Central Ministry of Health & Family Welfare (MoHFW), but has been a disaster for a majority of the CHWs who opted to enrol in the scheme. Around 1500 mitanins completed the ANM course by 2017, but around 60% could not find jobs. Similarly, most of the 200 GNMs trained from among the mitanins struggle to find jobs while a large number of vacancies exist. Most of them belong to remote and tribal areas. These qualified candidates with relevant experience (as CHWs) can be prioritized for recruitments in tribal areas. NHM gives them some extra points during recruitments but the policy has been implemented poorly. In addition, tribal women have been sponsored for nursing courses under other government schemes.

4.3.4 Salaries

The contractual SNs start their career at Rs.16 500 per month. In comparison, regular SNs earn around double the salary, around INR 30 000 per month. For working in difficult and most-difficult areas, they earn an incentive of INR 2000 and INR 3000, respectively. The above incentive is under CRMC which applies equally to contractual and regular nurses. But overall, for doing same kind and amount of work, contractual SNs earn substantially lower amount.

Two recent studies in remote tribal districts of Chhattisgarh have suggested a set of non-financial incentives for nurses in order to keep motivation levels high (21, 31). For example, in Bijapur nurses in government hospitals demonstrate a sense of pride in their work due to comprehensive improvements in HRH resulting in functionality of hospitals and inclusive nature of non-financial benefits given to doctors and nurses (21).

4.4 Policy recommendations

- Develop a more effective and transparent recruitment process
 - o Develop fast-track, time-bound recruitment policies to fill the vacancies (simplify procedures, reinforce administrative capacity, ensure better coordination between MoH and Ministry of Finance, make the recruitment and deployment more transparent, etc.)
 - o Focus on DME, which has huge vacancies of SNs despite being regular posts in urban areas with excess supply in the market. Shortage of nurses can hamper inpatient care services in tertiary-care medical college hospitals and result in poor public image.

- o Having a regular annual recruitment drive will allow a better match between demand and supply for the health workforce.
- o Proactively identify unemployed nurses and retrain/train them for the rolling out of HWCs.
- o Prioritize recruitment of nurses who have been trained through government-sponsored schemes.
- o Decide seats in private sector based on market availability and demand for nurses.
- Ensure high quality standard for nursing
 - o Strengthen regulation to improve the quality of education in private nursing schools in preference to quantity.
 - o Start nurse mentoring programmes.
- Reduce the salary difference between regular and contractual nurses and create a policy of converting contractual nurses into regular cadre.
- Develop a basket of non-financial incentives to better respond to nurses' expectations in remote areas.

4.5 Auxiliary nurse midwife

The total number of ANMs (contractual and regular) working for the Health Department is estimated at 7255 (5532 regular ANMs and 1723 contractual ANMs). Most of the contractual ANM vacancies are in the HWCs. NHM approved 650 posts in 2018 so that each sub-centre upgraded to HWC could have two ANMs. After one year of being approved, most of the 650 posts remain vacant. This again shows the paradox that while more than enough ANMs are available in the open market, posts still remain vacant for long periods.

The vacancy rate for ANMs is lower than that for SNs, as the trend over the past four years shows that the percentage of vacancy rate has remained around 10% and that approved regular ANM posts has basically not increased (around 6100). District-wise data in Table 20 for 2018 shows variations among districts. The highest vacancy rate is in Sukma and the lowest vacancy rate is in Durg, Raipur, Dhanmatri, Kanker and Bilaspur (Table 34a).

Table 34a: District-wise vacancy of regular ANMs in Chhattisgarh 2018

District	Vacancy
Sukma	61%
Balarampur	23%
Bemetara	22%
Korba	22%
Kondagaon	19%
Mungeli	16%
Gariyaband	15%
Raigarh	14%
Kavardha	14%
Koriya	13%
Surajpur	13%
Bijapur	11%
Jagdalpur/ Bastar	10%
Bilaspur	10%
Total	10%
Mahasamund	10%
Baloda Bazar	9%
Narayanpur	8%
Jashpur	8%
Dantewada	6%
Janjgir	4%
Rajnandgaon	3%
Balod	3%
Sarguja	1%
Dhamatari	0%
Kanker	0%
Raipur	-10%
Durg	-14%

Source: Data collected from DHS

In terms of production, there has been an increasing trend from 2013 to 2016 and a decline thereafter. There was a large increase in intake by private colleges that the state government permitted around 2012. It led to excess production of ANMs and a high unemployment rate. The state government made the correction and reduced the number of private schools in 2016.

Chapter 5: HR for rolling out the HWCs in Chhattisgarh

Primary health care as the cornerstone of UHC is currently on the agenda of many countries worldwide. India is no different, and is moving towards delivery of a package of preventive, promotive, curative and rehabilitative services close to the community. One of the strategies of Government of India to achieve UHC is through the provision of comprehensive primary health care (CPHC) as close as possible to the community.

The roll-out of the policy was suggested by the Taskforce on CPHC set up by MoHFW in 2015 and the NHM started allocating funds for CPHC from 2016 onwards. The commitment of the Government is reflected in the 2018 Union Budget, which mentions transforming health sub-centres, numbering 1.5 lakhs, into health & wellness centres (HWCs). Chhattisgarh was sanctioned 118, 782 and 1000 HWCs in 2017, 2018 and 2019, respectively under its project implementation plans submitted to NHM. An integral component of this effort will be equipping these centres to deliver a comprehensive service package and gate-keeping function with linkage to block primary health centres (PHCs) as the first referral point. This process would primarily involve: (a) infrastructure strengthening; (b) augmenting human resources; (c) assuring drugs and diagnostics; and (d) changing community perceptions.

The essential package at HWCs consists of the following:

- Care in pregnancy and child-birth
- Neonatal and infant health-care services
- Childhood and adolescent health-care services
- Family planning, contraceptive services and other reproductive health-care services
- Management of communicable diseases: national health programmes
- Management of common communicable diseases and general outpatient care for acute simple illnesses and minor ailments
- Screening and management of noncommunicable diseases
- Screening and basic management of mental health ailments
- Care for common ophthalmic and ENT problems
- Basic dental health care
- Geriatric and palliative health-care services
- Trauma care (that can be managed at this level) and emergency medical services.

The policy of CPHC is aimed at providing this comprehensive range of primary-care services at the level of HWCs at every 5000 population. It also seeks to provide a continuum of care through referral linkages to facilities above HWCs and long-term follow-up of chronic disease cases by the PHC team at HWCs.

These HWCs are to be led by a MLHP with help of a team consisting of two ANMs and at least five CHWs. In addition to sub-centre-based HWCs, all existing PHCs are also expected to provide care equivalent of an HWC under CPHC.

This chapter focuses on the policy question around key health workforce elements to consider for a successful rolling out of the HWCs in Chhattisgarh.

5.1 HWCs in Chhattisgarh

Korba district of Chhattisgarh was a pioneer in initiating HWCs. The district started with 70 HWCs in May 2017 in sub-centres across the five blocks of the district with technical support from State Health Resource Centre (SHRC), the additional technical capacity available to Directorate of Health & Family Welfare (DoHFW). The State expanded the HWC programme in five more districts in 2018, increasing the number of centres to 300 by March 2018. In the

financial year 2018–2019, Chhattisgarh decided to increase the number of HWCs by upgrading 650 sub-health centres and 250 PHCs to HWCs. In 2019–2020, the cumulative number of operational HWCs is planned to reach 1900 HWCs – 1500 in sub-centres and 400 in PHCs (Table 35).

Table 35: Targets for operationalizing HWCs

Year	No. of new HWCs planned		Cumulative no. of HWCs planned	
	Sub-centres	PHCs	Sub-centres	PHCs
2017–2018	119		119	
2018–2019	531	250	650	250
2019–2020	850	150	1500	400
2020–2021	900	400	2400	800
2021–2022	1000	40	3400	840
2022–2023	1000	0	4400	840

Source: Data collected from NHM

The State has around 840 PHCs (including in urban areas). PHCs do not need any changes in HR structure to function as HWCs. The focus there is more on utilizing the HR as per existing staffing norms to provide services compliant with CPHC.

HRH planning required for CPHC is mainly for HWCs to be operationalized in sub-centres. The State has 5200 sub-centres, of which around 800 are co-located with PHCs and thus need no upgradation. Thus around 4400 sub-centres are to be operationalized as HWCs within the next 3-4 years.

5.2 Current model for operationalization of HWCs in Chhattisgarh

5.2.1 AMOs as MLHPS

The role of MLHP for the initial set of 650 HWCs at sub-centre level is being played by AMOs, who are posted at PHC level but go to sub-centres designated as HWCs to conduct biweekly clinics. These AMOs have undergone a 3-year diploma and 1-year internship training along with other in-service training during their decade-long experience of working in the health systems, though the programme is no longer operational. Their course curriculum was focused on primary-level curative care and these AMOs have been trained on standard treatment protocols as well. This made them the obvious choice to play the MLHP role.

An AMO from the PHC visits the sub-centre being selected as HWC for two days in a week and provides clinical services to the people there. For rest of the four days in each week, ANMs/MPWs are expected to follow-up these patients and provide OPD services along with outreach activities. There are 1200 AMOs working with the health department and under the current arrangement, these numbers are sufficient to operationalize up to 1000 HWCs at sub-centre level. However, if each PHC is to have at least one AMO/MO to be present on all days, it leaves around 500 AMOs to run two HWCs each.

5.2.2 Bridge programme in community health

For the upcoming needs of MLHPs for HWCs, the State has also started a 6-month bridge course designed by the MoHFW for SNs and posts them to HWCs to work as MLHPs. Their official designation in MLHPs is community health officers (CHOs).

The first batch of 93 candidates started in July 2018 in four districts and 70 candidates passed the Indira Gandhi National Open University (IGNOU) examination in January 2019. Around 60 of them joined as MLHP in HWCs. Fourteen of those who had failed to clear the final examination in the first attempt passed in their second attempt. A second batch of 274 participants has started bridge course training from January 2019 in six study centres. Another batch of around

280 joined in July 2019. Although the capacity for intake was 480 for the July 2019 batch, only 300 positions could be advertised and 280 recruited. This gap was due to two factors: (i) funds were approved for 300 positions which reflected a mismatch in financial planning; and (ii) concerns over poor quality of learning in study centres. However, the current production level of new MLHPs along with existing AMOs should be sufficient to meet the target of 1500 sub-centre-based HWCs in 2019–2020.

5.3 Future of the biweekly AMO clinic model in HWCs

All the existing AMOs can operationalize HWCs at 1000 at SHCs and all the PHCs where they are posted at present. The rest will have to be filled by the newly-trained MLHPs. As the next batch of MLHPs (274 candidates admitted to the course) will pass out in July 2019, they will replace the AMOs who are conducting biweekly clinics in HWCs. These AMOs can then start biweekly clinics in the new HWCs located near their PHCs in their district till the next batch of MLHP replaces them. Additionally, they can play a mentorship role to the newly passed-out MLHPs and provide handholding support to them on primary-care practices by conducting weekly/fortnightly clinics with them.

5.4 Production capacity for MLHPs

The State has nine of its DHs designated as study centres for the 6-month MLHP course. These have a cumulative intake capacity of 480 per batch and 960 in a year. There is a plan to add two to three more centres, taking the capacity past 1000 in a year. As discussed in the chapter on SNs, there is enough production of nurses in the State along with a large number of unemployed nurses available in the open market. The MLHP position also carries other advantages in remuneration and designation. The Central Government has allowed INR 25 000 to be paid as salary and up to INR 15 000 performance-based incentive to an MLHP per month. The designation of CHO is seen as attractive because of the “officer” tag.

Around 1000 new MLHPs can be produced annually and this will require a small increase in funding. The cost of the 6-month training per MLHP is around INR 100 000. Increasing the sanction from 600 to 1000 MLHPs would require an additional sanction of around INR 40 million. Considering that the current sanctioned total budget for HWCs is around INR 1200 million for Chhattisgarh, this represents a small increase. If Chhattisgarh can train and deploy 1000 MLHPs annually, it will have enough MLHPs to meet the targets of HWC operationalization.

5.4.1 Issues

There are two issues, however, that will need to be addressed regarding the production of MLHPs in Chhattisgarh – regional distribution and quality of training.

- **Regional distribution:** One persistent issue has been to ensure enough recruitment from remote tribal districts. The State has addressed it partially by having regional quotas from the July 2019 batch onwards. Having a quota for each division has helped in solving the issue to an extent. This means that there is an increase in entry of nurses belonging to remote areas into the MLHP course. The less attractive part for a nurse in joining as MLHP is the posting in sub-centre-based HWCs, because they are located in rural settings. B.Sc. qualified nurses expect urban jobs because most of the SN positions are situated in CHCs or DHs. The rural posting issue can be ameliorated if the nurses belong to local areas. The current selection design for intake into MLHP course takes that factor into account by having divisional quotas.

A further issue in regional distribution is about locations where the MLHPs choose to join after completing the bridge course. The experience with the first set of 60 MLHPs who qualified in January 2019 was that they chose peri-urban areas and almost none went for remote districts. Making the regional distribution equal at the intake stage (in MLHP course) may help in addressing the imbalance at the stage of post-training postings. However, some highly remote districts like Sukma and Narayanpur may still suffer and district quotas may be needed to address intra-division distribution.

- Quality of training: The second concern regarding the bridge course has been the quality of learning. So far, only DHs have been chosen as study centres. They do not have a culture of teaching and many times do not have enough specialists to teach. Leadership is also in deficit for a teaching–learning role. The existing medical teaching institutions, i.e. the medical colleges have not been keen to train MLHPs. There is a provision to involve private or non-profit organizations as study centres, but its feasibility is poor due to limited availability of such centres and their reluctance to accept the bureaucratic procedures involved in running the course. The course is under the IGNOU and a study centre has to manage the paperwork required by IGNOU. The payments to the study centre faculty often get delayed by IGNOU which can become a problem for a nongovernment entity.

The B.Sc. and M.Sc. nursing colleges run by government, especially the four in the latter category, offer a better opportunity because they have experience in teaching and can arrange the necessary faculty. Medical colleges also need to be persuaded to take up the MLHP course. But the likelihood is that even if these reforms get implemented, a substantial number of MLHPs would have already completed a poor-quality course. There have been efforts to improve the performance of existing study centres in DHs, but it cannot be enough for growing number of centres.

5.4.2 Challenges

Some of the upcoming challenges will include: post-training mentoring; MLHPs as team leaders; and defining the role of newly-trained MLHPs in the state context.

- The first challenge will be around on-the-job learning, mentoring and periodic training of new MLHPs in order to improve their skills and confidence. This will require planning to ensure that the large number of MLHPs being produced receive at least 5–10 days of training each year, which is a big challenge. In case of AMOs, the State has demonstrated the capacity to train around 300–400 of them annually. This means that the existing capacity is inadequate to meet the training needs of AMOs alone. Thus, fresh strategies need to be thought of for continued training inputs to new MLHPs.

One such strategy is of mentoring. The existing AMOs can be mentors for new nurse MLHPs. This will require policy changes in how incentives and hierarchy get structured. The nurse MLHPs can have AMOs in the concerned PHC as a mentor and supervisor. The design can be that the concerned AMO also runs an HWC part-time and thereby be eligible for the incentive from HWC. This will help in avoiding any conflict between AMOs and MLHPs over the incentive amount. Currently, a contractual AMO earns around Rs 23 000 per month, and if not given HWC-related work and incentive, they can end up having lower remuneration than MLHPs. The regular AMOs earn around Rs 4000 per month as salary and can focus more on providing care at the PHC. They can be given a small incentive to mentor the MLHPs.

- Another emerging issue is related to the role of MLHPs as team leaders of the HWC workforce and the acceptability of the existing ANM and male multi-purpose worker (MPW). While some ANMs may welcome the addition of more staff to their sub-centres, early experience indicates the possibility of resentment at the introduction of hierarchical changes. There can be practical difficulties too, e.g. there is space for only one nurse to stay in HWCs and it may become a bone of contention between the existing ANM and the MLHP. This potential conflict needs to be managed but there does not seem to be a strategy to do that.
- There are also challenges involved in defining the role of newly-trained MLHPs in the context of Chhattisgarh. One central question is regarding the extent to which they will be authorized to provide curative care, i.e. in diagnosis and prescription. The current practice of AMOs in Chhattisgarh has been to “resolve more and refer less”. This means that they diagnose and prescribe for simpler illnesses and refer more complicated cases. They treat more than 80% of the patients coming to them and refer the rest.

With nurses being trained for MLHP role, there is a lack of clarity on this aspect, including in their curriculum. To what extent they are trained and allowed to diagnose and prescribe has not been clarified in official guidelines. The cadre has been created through a policy decision of the Central Government and they undergo a 6-month certificate programme from a central university. However, there is no legal framework supporting the role and the newly approved National Medical Commission (NMC) Bill can alter the situation. Also, as the MLHP cadre gains in numbers at the national level, it is likely to attract opposition from the Indian Medical Association. While provision of curative care for simple acute or chronic illnesses by MLHPs is necessary for success of the HWC model, it needs to be supported by equipping MLHPs with the necessary skills and legal framework.

A related issue is of acceptability of this idea in the existing health systems. Chhattisgarh, like rest of India, has a history of training and deploying nurses mainly for inpatient care roles. In government facilities, the role is further concentrated around maternal care. Deployment of nurse practitioners for outpatient care is relatively new for the system.

5.5 Should Chhattisgarh consider dental surgeons, ayurvedic doctors and homoeopathic doctors for MLHP role in HWCs?

The State, like any other part of India, has excess production of dental surgeons, ayurvedic doctors and homoeopathic doctors. Thousands of them are available in the open market and their associations exert pressure on the government to find ways to recruit them in government jobs. A policy question is whether they can be recruited to play the MLHP role in HWCs after undergoing a bridge course specially designed for them. There is a view favouring their induction, based on the assumption that they have greater confidence to act in clinician roles than nurses and may have greater acceptability as providers. The current national policy on CPHC allows ayurvedic doctors as MLHPs but there is also an opposition to training ayurvedic doctors to play a role in curative care based on allopathy.

The current position is that the State has enough nurses and does not need to include other streams to get enough number of MLHPs.

5.6 The primary health care team at HWCs other than MLHPs

5.6.1 Second ANMs

- All sub-centre based HWCs need to have two ANMs according to the HWC staffing norms. The State currently has around 1300 sub-centres with second ANMs. Thus, to reach the target of 4400 HWCs, there is a need to recruit 3100 more ANMs. So far, funds have been sanctioned by NHM for 650 ANMs but most of their posts remain vacant even after a year elapsing since approval. There are thousands of qualified ANMs available in the open market and this gap again highlights the administrative capacity issues in recruitments.
- The role division between the two ANMs is a design question. One view is that the existing ANM can continue with existing role that focuses on RCH-outreach and the second ANM should be tasked to assist the outpatient clinics of HWC. Tamil Nadu has taken this route. Another view is to divide the RCH-outreach and HWC role equally between the two ANMs, both spending equal time in the field. Either way, the need is to ensure that at least one ANM is present in the HWC each day. The ANMs also need training in managing simple acute illnesses, first aid for emergencies and for health education, screening and follow-up of NCDs.
- There is a provision for team incentives for HWC teams. The concept of “team incentive” is that if the overall performance of the HWC is good, all members of the team earn an incentive. It remains to be seen whether the concept works in practice. While the MLHP earns a handsome incentive for performance, the team incentive amount has been modest. As a result, the best amount an ANM can earn is less than INR 1000 per month. This amount seems to be inadequate.

5.6.2 Male multipurpose workers

- Each sub-centre has had a sanctioned post of male multipurpose health worker (MPHW) since the past several decades. In the State, out of the total 5200 sub-centres, around 3000 have MPHMs. The male MPHMs have a one or two-year diploma in paramedics. Their traditional role was in promoting public-health measures around prevention and control of infectious diseases. Where ANMs were in shortage, they also filled the gap in immunization. There has been a greater tendency amongst male MPHMs to indulge in dual practice as compared to ANMs. Many of them tend to provide injections and IVs for common illnesses and charge fees from people. This is done informally and in violation of rules.

Currently, this cadre seems to be underutilized, but the conversion of sub-centres to HWCs has opened new potential roles for this part of the workforce. The roles they can now be assigned in sub-centre-based HWCs are:

- o Data entry: CPHC being a population-based programme requires each person in the population to be enrolled. Each person above the age of 30 needs to be assessed for high-risk behaviour related to NCDs and to be physically screened periodically for hypertension, diabetes and cancers. Each presumptive and diagnosed case of chronic disease is meant to be followed up, including across levels of care. Thus, CPHC requires the HWCs to record a large amount of electronic data. Male MPHMs can be assigned this role.
- o Diagnostic tests: HWCs require many people to be tested using point of care diagnostics. Male MPHMs can assume this role.
- o Apart from the above, they can resume some of traditional tasks like follow up of TB and leprosy cases and supervision of malaria prevention activities like indoor residual spray of insecticides.

5.6.3 ASHAs

- Chhattisgarh is the State that pioneered the CHW programme in India way back in 2002. It has 70 000 women CHWs who are known as mitanins in the local dialect. When the national CHW programme accredited social health activist (ASHA) was started in 2006 under the NHM, mitanins were recognized as ASHAs.
 - Mitanins play three kinds of roles: (a) as health educators and providers of primary curative care for ailments like malaria, diarrhoea and acute respiratory infection; (b) as link persons with formal health-care services offered by government and promoting their utilization; and (c) as community activists organizing local intersectoral action around health rights and social determinants of health.
 - The State has a mitanin for almost every rural habitation and urban slum. The average population covered per CHW is around 350. This ratio is much better than the national average of 1000 population per ASHA. This has given the State an advantage in improving coverage of the rural population. This coverage has been so far mainly for care related to RCH and communicable diseases. The HWC has opened new possibilities for involving mitanin CHWs in care of chronic diseases as well. CHWs can play a role in population enumeration and assessment of high-risk behaviour. More importantly, they can refer presumptive cases to HWCs for further care and follow-up chronic disease cases. This requires some training and supportive supervision inputs for mitanins.
 - Under each sub-centre, there are around 10–15 mitanins, which is an adequate number. In some remote areas, there are new mitanins required and the number of such habitations is estimated to be around 3000. In addition, around 2 million population in 100 small towns (less than 50 000 population) in the State does not have a mitanin and 2057 CHW positions have been sanctioned by NHM to cover this gap. Thus, around 5000 more CHWs need to be selected for universal coverage of the population.

- Another area for which CHWs are being demanded is the non-poor part of the urban population. Local health officials need CHWs to improve coverage of government's public health campaigns like pulse polio, measles–rubella vaccination, prevention of dengue and other vector-borne diseases, etc. There is a genuine need to find ways in which the urban middle class can participate in preventive health care. NUHM currently allows CHWs to be selected only in the urban slums or vulnerable populations. There is no experience available on effectiveness of CHWs amongst well-to-do populations. The current HWCs in urban PHCs are focused on slum populations. Presence of CHWs has helped in demarcating populations that belong to each urban PHC/HWC. Each CHW has a clearly defined population.
- The mitanins were honorary workers to start with and they were not paid any remuneration till 2006. NHM introduced small cash incentives to which the State has added a top-up amount. Average earnings of a mitanin currently are around Rs. 2500 per month. There is a need to increase this. With HWCs adding more work for CHWs, an incentive of Rs. 400 has been proposed per month, based on minimum performance norms.

5.7 Discussion and recommendations

The key question of this chapter is around the key health workforce elements to consider for a successful rolling out of the HWCs in Chhattisgarh. HWCs are not only a mechanism to provide comprehensive primary care but can also play a big role in increasing the contribution of the health sector to overall employment in the State. HWCs have the potential to absorb around 4000 B.Sc./GNM nurses and around 4000 ANMs over the next three to four years.

While the production and availability of required number of HR seems adequate, the key elements to focus on include the following:

- Ensuring quality in training of MLHPs (including by involving medical and PG nursing colleges in the bridge course), their continuous skill-building on the job and mentoring;
- Clarifying the role of HWCs, thereby MLHPs, in curative care, i.e. whether the approach should be “resolve more and refer less” or mainly referral based;
- Ensuring two ANMs per HWC, completing recruitments of sanctioned posts of second ANMs;
- Covering leftout population in tribal areas and small towns by inducting required number of ASHAs;
- Team-building of HWC workforce;
- Dovetailing of roles between AMOs and nurse MLHPs;
- Providing equitable incentives for staff other than MLHPs;
- Redefining the role of male MPWs, to align with the required functions in HWCs.

Chapter 6: Conclusions and recommendations

The earlier chapters examine the key types of HRH in Chhattisgarh in terms of overall availability, production, recruitment by government, regional distribution, remuneration and other benefits and quality. The detailed analysis was meant to arrive at an understanding of key issues and also to help in formulating recommendations specific to each cadre depending upon the situation within the government-run health-care structure in Chhattisgarh. HLMA is also expected to be a high-level overview of HRH meant to identify overarching issues and recommendations. This chapter attempts to summarize the overall issues regarding HRH in Chhattisgarh and provide pragmatic policy options to ensure HRH capacity for UHC and the roll-out of HWCs.

6.1 Key HRH strengths and best practices in Chhattisgarh

Chhattisgarh has been a pioneer in developing and implementing significant HRH innovations and their scale-up including developing new cadres of CHWs (mitanins) and diploma clinicians (AMOs), CRMC (package of financial and non-financial incentives for attraction and retention of HRH in remote areas) and multi-skilling of doctors for obstetric care. Over the years, the State has built upon these strengths and they are recognized as national best practices. Investments continue to be made in skill-building of the AMO cadre that has become the fulcrum of primary care in Chhattisgarh. Chhattisgarh was a pioneer in initiating HWCs, along with Tamil Nadu. A model developed by Jan Swasthya Sahayog in Bamni cluster of Chhattisgarh was the key reference for design of CPHC policy and HWCs nationally. Korba was one of the first districts in the country to initiate HWCs on scale in 2017.

Chhattisgarh has made appropriate use of AMOs to kick-start HWCs and that has helped in making clinical skills available closer to people, where they can access them. For HWCs, the State has also created significant capacity for training nurses as MLHPs. The State seems to be well placed on the path to setting up the required number of HWCs over the next 3–4 years. HWCs are close to building a full-fledged primary-care team of MLHPs, ANMs, male MPWs and CHWs.

The production of doctors and nurses has been increased in Chhattisgarh. Recruitments, though inadequate, have also picked up substantially over the past five years. This puts the State in a good position to address the vacancies soon.

The State has continued to innovate in terms of building skills and task-shifting. The 3-month paediatric training course started in 2019 in collaboration with AIIMS is a significant example. Similarly, capacity-building for mental health in collaboration with NIMHANS is very encouraging. The linkage with centres of excellence, especially AIIMS Raipur, can add strength to the Department of Health in improving skills in specific technical areas.

The State has carried out a significant number of studies on HRH aspects, e.g. on AMO cadre, skills of primary providers, attraction and retention in remote areas, CRMC, regulatory requirements, CHWs and so on. This capacity to analyse has resulted in a good understanding of HRH issues at the state level. The State has already initiated many reforms to address the gaps in HRH.

6.2 Workforce of the future for Chhattisgarh

There is a need to start visualizing what the future workforce structure in Chhattisgarh should look like. This is necessary for two main reasons:

- The State is witnessing an early epidemiological transition. There is a significant load of well-known infectious diseases like malaria, TB and leprosy and new ones like dengue, hepatitis E, swine flu and Japanese encephalitis are also emerging in some areas. The

maternal, neonatal and child health indicators are close to the national average but significant gaps remain in care for emergency obstetric and neonatal conditions at facility level. The bigger challenges are chronic diseases like sickle cell disease, epilepsy, hypertension, diabetes, chronic respiratory diseases, cancers and mental illnesses. The State is the second highest in the country in terms of injury-related mortality per unit population. Care for chronic diseases and emergencies are emerging as twin challenges for which the State has to gear up. The current CPHC design intends to provide all the above services, but the HRH design and skills of MLHP are not matching with the above requirements. Achieving CPHC on ground will require a different level of intervention in HRH aspects, especially in Chhattisgarh where referral systems and secondary care are relatively weak.

- There is a greater public recognition of the above health challenges and there is a new willingness in government to provide care in the form of the UHC initiative announced by the State. The State has articulated its approach to strengthen its public facilities and services through multipronged strategies, including improvements in HRH.

This report provides some pointers for the future workforce: (i) task-shifting through various strategies including training MOs in specialist skills through short courses or distance education; (ii) alternative ways for multi-skilling like family medicine diploma; (iii) Adding capacity at primary-care level through skill-building of cadres like ANMs, MPWs and MLHPs; (iv) redesigning roles at each level commensurate with continuum of care promised under CPHC; (v) redesigning manpower to handle referrals from HWCs, especially in CHCs; (vi) building leadership at all critical levels; and (vii) developing career pathways for all cadres. Some of these changes may require

In order to develop the contours of a health workforce of the future, further studies will be needed. One crucial aspect will be to take the views of existing HWs into account while designing the new roles and capacity-building processes. This report recommends such studies to be taken up over the next one year in Chhattisgarh.

Summary of cadre-wise situation analysis and recommendations are discussed in succeeding paragraphs.

6.3 MOs

The State has around half the number of doctors it should have according to norms in many parts of India and WHO South-East Asia Region. The State has expanded the production of MBBS doctors by increasing the number of medical colleges from one to nine over the last two decades. The current production capacity for MBBS also needs to be doubled but a rapid expansion does not seem feasible. It needs to increase the intake capacity of the nine colleges to reach a production of around 1500 doctors per year. This may be a gradual process due to shortages of faculty. Measures can be taken to recruit more faculty by offering better salaries as done by many other states in India.

There is pervasive regional imbalance in availability of government as well as private doctors, with concentration in urban areas and severe shortages in remote areas. Dual practice by government doctors, boosted further by the publicly funded health insurance programmes, poses another challenge.

The most notable challenge for the government services is the recruitment of only a small portion of the State's output of MOs. At the current number of sanctioned positions within government, there is around 25% vacancy of MOs. What prevented the State from recruiting more? The State has yet to demonstrate adequate administrative capacity for organizing recruitment drives regularly. The option of using services of professional HR agencies has been attempted to some extent but there can be further scope.

To make the jobs attractive, salaries and other benefits need to be improved. While government spends a large amount in education (around INR 10 million per MBBS graduate), it is unable to make use of this investment because of unwillingness to pay better salaries to doctors in government jobs. The State has suffered several periods of poor political will when the Finance Ministry did not approve filling of the sanctioned positions or increasing salaries.

The bond scheme has started showing results with around 300 MOs working in government under the bond. The scheme should be implemented better with focus on making good use of the 2-year period for which the doctors are with government. They should be offered the choice of taking up regular/contractual jobs in government.

There has been better success in recruiting in contractual positions due to better salaries allowed by flexible norms of NHM. Districts of Bijapur and Dantewada have shown good examples of successfully recruiting doctors by offering better salaries, better work environment and other facilities like accommodation, transport, etc. There was a long delay in implementing the policy on compulsory government service (bond) for MBBS graduates, but once started, it has shown encouraging results.

MBBS graduates can also be attracted if working for a few years with government can help in admission into PG courses. The current scheme of giving additional marks in PG entrance to MBBS who work in tribal areas is showing good results. Nationally, around 150 000 MBBS graduates compete for 25 000 PG seats. The remaining can be attracted by government if government offers them specialist-equivalent courses in-house, e.g. the PG Diploma in Family Medicine.

There is no policy to have regional quotas to get students from remote areas. Such a policy, even if implemented, can face substantial legal challenges in the Indian situation. Most of the medical graduates come from urban backgrounds, and are not keen to go to remote areas. Therefore, location is important and fairness in allocating locations must be ensured.

The State, like the rest of the country, has a large production of dental surgeons. There may be a case for encouraging future production mainly in government colleges. The situation of medical graduates in indigenous systems (ayurveda and homoeopathy) is also similar with production exceeding the needs of the State. So far, the State has not decided to give them any role in HWCs. Another group of medical professionals, physiotherapists, is yet to find a place in the government health system though there may be a need to do so.

Based on the HLMA, the main policy recommendations are:

- Strengthen production capacity of medical schools
 - o Expand the number of medical seats to 1500 and increase faculty
- Address issue of high vacancy rates
 - o Improve administration of the recruitment process
 - Have regular recruitment drives, at least one drive annually
 - Implement measures to improve recruitment efficiency, e.g. by:
 - o using campus selections in the State (including AIIMS) and outside
 - o transparent allocation of location of postings
 - o offering an attractive career pathway for MBBS graduates who join government, etc.
 - Regulatory changes: amend the recruitment rules to allow recruitments of regular posts from outside the State.
 - o Increase the attractivity of the public sector for MOs
 - Increase salaries substantially in regular appointments, including through NPA.
 - Increase salaries for contractual positions in some rural districts by using the flexibility already allowed by NHM.
 - District-level supplementation of remuneration.

- Improve supportive services and other benefits to improve retention in remote areas
 - Policy to encourage and facilitate enrolment of medical students from rural and remote areas in medical studies
 - Improve financial and non-financial incentives in less desirable locations
 - Ensure career pathway improved by serving in rural and remote areas
 - Assign points in PG entrance for MOs serving in tribal areas
 - Sponsor MOs in rural, remote and tribal areas to attend special family medicine courses for MBBS
 - Time-bound transfer option for doctors posted in tribal areas
 - Compulsory posting (around 20% part of career) in tribal areas for every regular MO/specialist.
- Improve administration of AMOs:
 - Policy to facilitate transitioning from contractual to regular AMO
 - Create an attractive career pathway for this cadre and invest further in their skills.

6.4 Specialist cadre

There is around 50% vacancy of specialists, with around 1600 specialists working against 3200 sanctioned government posts. In medical college faculty or tertiary hospitals, there is 40% vacancy but it gets more severe in DHs and further in CHCs. In CHCs, the gap is as high as 90%. Dual practice poses another challenge.

DHS does not have specialists as entry cadre and this is a cause of shortages of specialists in the public sector. There are 431 MOs with PG qualifications who could be promoted to specialist roles. Changes in outdated selection rules can improve availability of specialists to an extent. Freeing specialists from generalist roles can help in arresting their deskilling.

The shortage is also due to the inability of the system to attract specialists. Current salaries are not attractive enough to attract and retain specialists into the public sector. In addition, the production of specialists is also much lower than the Indian average, so there is also scope for increasing the annual production of specialists. However, the increase in the production should be accompanied by an improvement in the salary and working conditions of specialists to ensure the viability of specialist care in the public sector. Government medical colleges in many states in India, e.g. Madhya Pradesh, Odisha with severe shortages have used the strategy to attract specialists as faculty.

Based on the HLMA the main policy recommendations are:

- Strengthen the production capacity of specialists
 - Expand the number of specialists seats
- Address issue of high vacancy rates
 - Improve administration of the recruitment process
 - Direct recruitments as specialists in regular appointments of DHS by modifying selection rules
 - Campus selections, including from other states
- Increase the attractiveness of the public sector for specialist roles
 - Increase salaries substantially in regular appointments, including through 40–60% NPA
 - Increase salaries for contractual positions in some rural districts by using the flexibility already allowed by NHM.
 - District-level supplementation for remuneration
- Improve supportive services and other benefits to improve retention
 - Increase salary and benefits
 - Attractive career progression
- Address unmet need for specialist care

- o Introduce task-shifting from specialists to MOs in DHs and CHCs. MOs to be trained in most common surgeries and diagnosis and treatment of common diseases and given permission to perform these procedures
- o Deploying family medicine specialists and conduct multiskilling courses, especially in CHCs, that are appropriately paid and incentivized
- o Adopt the flexible NHM norms for engaging specialists. Have fixed days of visiting specialists, case-to-case, etc.

6.5 Nurses

There are two main nursing cadres – SNs and ANMs. The State has, like many states in India, highly privatized nursing education. While the ANM schools in the private sector are no longer allowed to produce more ANMs, a large number of nursing schools for B.Sc. Nursing and GNM Nursing continue to produce large numbers. The poor quality of education in many private schools is a cause for concern. While the nursing schools have greater concentration in urban regions, most of the tribal regions are also producing adequate number of nurses.

This has created enough production to meet the needs of government but around 20% vacancies still persist. The gaps in administrative capacity to recruit have been compounded by the difficulty involved in selecting from a large number of job seeking nurses.

Based on HLMA, the main policy recommendations for nurses are:

- Develop a more effective and transparent recruitment process
 - o Develop fast-track, time-bound recruitment policies to fill the vacancies (simplify procedures, reinforce admin capacity, ensure better coordination between MoH and Ministry of Finance, make the recruitment and deployment more transparent, etc.)
 - o Focus on filling large SN vacancies in DME
 - o Have a regular annual recruitment drive to allow a better match between demand and supply for the health workforce
 - o Proactively identify unemployed nurses and retrain/train them for the rolling out of HWCs
 - o Prioritize recruitment of nurses who have been trained through government sponsored schemes
- Ensure high quality standards for nursing education
 - o Strengthen regulation to improve quality of education in private nursing schools in preference to quality
- Reduce the salary difference between regular and contractual nurses and create a policy of converting contractual nurses to regular cadre
- Develop a basket of non-financial incentives to better respond to nurses' expectations in remote areas.

6.6 HWCs and MLHPs

MLHPs are the key cadre to manage the HWCs. The AMOs have managed the initial set of HWCs by conducting biweekly clinics in sub-centres promoted as HWCs. This role is in addition to their duties in PHCs but also allows them to earn incentives, and gives the benefit of their experience and competence to HWCs. The maximum number of HWCs that can be managed by AMOs is around 1000. The State needs to promote a total of around 4000 HWCs over the next 3–4 years. This will depend upon production, and the skills of MLHPs trained from nurses. The State has enough nurses to be recruited for the bridge course. Regional distribution of nurses has been addressed by having regional quotas in the bridge course, but some remote districts may still have to depend on nurses belonging to neighboring districts. The State has also set up enough study centres to produce more than 1000 MLHPs annually. However, there are challenges in: (i) ensuring quality in terms of skills of MLHPs; (ii) acceptability of their services among communities; (iii) acceptability of their leadership among existing ANMs in sub-centre-

based HWCs; and (iv) potential clash with AMOs over seniority and incentives related to work in HWCs.

Other than MLHPs, ASHAs and ANMs are other important parts of HWC workforce. Two ANMs are sanctioned per HWCs but recruitments remain pending. The State has enough ASHAs but around 2 million population in 100 odd small towns and some remote tribal habitations still remain to be covered. Around 60% of sub-centres have male MPWs. Their roles in the overall health system and in HWCs are unclear.

6.7 Key questions

The key question of this chapter is around the key health workforce elements to consider for a successful rolling out of the HWCs in Chhattisgarh.

While the production and availability of the required number of HR seems adequate, the key elements to focus on include:

- ❖ ensuring quality in training of MLHPs, their continuous skill-building on-the-job and mentoring;
- ❖ clarifying the role of HWCs, thereby MLHPs, in curative care, i.e. whether the approach should be “resolve more and refer less” or mainly referral based;
- ❖ Ensuring two ANMs per HWC; completing recruitments of sanctioned posts of second ANM;
- ❖ ensuring coverage of all areas by adding 5000 ASHAs;
- ❖ team-Building of the HWC workforce;
- ❖ dovetailing of roles between AMOs and nurse MLHPs;
- ❖ equitable incentives for staff other than MLHPs; and
- ❖ redefining the role of male MPWs, to align with the required functions in HWCs.

6.8 Action points based on discussions on HLMA with Departments of Health and Family Welfare and Medical Education, Chhattisgarh

The key findings and recommendations of the HLMA exercise in Chhattisgarh were presented to the Secretary (Health) and Mission Director (NHM) on 30 August 2019. There was a consensus on most of the recommendations made. The Secretary decided the following action points:

1. Creation of TWG

- Issuing an order for creating on the TWG (State Health Resource Centre [SHRC] to move proposal)
- TWG to review progress on HRH recommendations through monthly or quarterly meetings

2. Modifying recruitment, promotion and transfer policies

- Making seven years' work in tribal area compulsory for all regular specialists and MOs with guaranteed transfer option within 3-4 years
- Five types of districts with differential salaries in order to attract specialists and MOs, especially to rural areas. The same set of categories will be applied for differential payments across NHM as well as DHS.
- Permanent HRH Recruitment Board should be set up within the Health Department.
- Setting up campus interview teams, using some of the practicing doctors in rural areas.
- Pending proposals with the examination board (Vyavsaik Pariksha Mandal), the need to be assessed and if there are significant delays, the option of Health Directorate directly conducting the examination can be explored.
- Designing career pathways for all cadres.

- Developing a full-fledged policy on AMOs, including career development and improving payments for contractual AMOs. Suggestions on career pathways included further discussion on allowing a bridge course to get their diploma converted into a B.Sc. degree, followed by an M.Sc. degree.
- In case of nurses' recruitments, candidates with experience as contractual nurses with the department to be given priority or extra points for regular appointment.
- Engage specialists from the private sector to provide fixed day services in government hospitals lacking specialists.

3. Improving medical skills

- Design the family medicine course (6 months to 1 year) for MOs, and incentives. This course to develop multiple skills in MOs must be initiated as soon as possible in 2019.
- A workshop can be organized soon in which Dr Vinod Paul can discuss issues related to medical education and the new National Medical Commission Act.
- Mentoring group to be formed for nursing and other cadres in each area.

4. HRH for HWCs

- Immediate task to recruit and deploy sanctioned number of second ANMs in all HWCs.
- Role of MPWs to be clarified. It can be redesigned to suit needs of HWCs.
- Mentoring of new CHOs by the AMOs. The AMOs can be given charge of MLHP role in nearby sub-centres being upgraded as HWCs.
- Contractual AMOs to be prioritized for MLHP role in HWCs.
- Letter to Government of India to increase team incentives, so as to help ANMs earn attractive incentives.
- Continue the expansion of hostels for doctors in tribal districts. Preferably, build residential places where several HWs share common place close to or inside the hospital premises.

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