

Closing human resources gap in health: Moving beyond production to proactive recruitments

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ABSTRACT

Human Resources for Health (HRH) plays an integral role in healthcare service delivery. Gap in HRH has been a major concern with our healthcare ecosystem for a long time. It is vital to have adequately staffed public healthcare facilities, which are freely accessible to the population. To understand the reasons, we looked at the production, availability, and vacancies of HRH existing in public sector as well as measures taken for closing HRH gap during the period 2014–2015 to 2019–2020 and best practices adopted by the some of the State/UTs. We relied on official websites and official reports/statistics. While teaching capacity has increased significantly in recent past, and there are sufficient numbers of registered HRH, it has not translated into the recruitment of HRH in public facilities. Measures like campus placement, assured career progression, efficient and transparent recruitment process, modern and responsive HR management system, financial and non-financial incentives and notification of the vacant posts can play a vital role in filling the existing gaps. Some of the states have taken proactive measures for filling the vacancies, which can be replicated. The vacancies need to be filled in a mission mode. States also need to sanction required posts as per the norms. The ratio between different categories of healthcare staff should be taken into consideration while sanctioning posts for these cadres. Availability of HRH in public sector as per norms would contribute toward achieving Sustainable Development Goal-3, reducing out of pocket expenditure and bring enormous socioeconomic gains.

Keywords: Human Resources for health, India, public health institutions

Introduction

A large portion of the population in India depends on public health facilities. These facilities offer free health services, and help in reducing dependence on high-cost, private hospitals by providing accessible and affordable healthcare services. Yet, government hospitals cater to only 30% out-patient visits (33% in rural, 26% in urban), and 42% in-patient hospitalizations (excluding childbirth) (46% in rural areas, 35% in urban areas).^[1]

It is important to have required health workforce in these facilities for providing adequate health services^[2] and reduce out of pocket

expenditure, as was evident in the current coronavirus disease 2019 (COVID-19) pandemic. Chronic shortfall of HRH in the public sector affects our healthcare ecosystem adversely. Further, as per conventional wisdom, increase in teaching/intake capacity is the way to fill the HR gaps. Production of HRH has significantly improved in recent years by the current Government policies and schemes.^[3] Therefore, it is important to find out if increase in teaching capacity has translated into a reduction in HRH gaps existing in public health facilities. We try to answer the question if commensurate with the increase in availability, and annual production of HRH, the shortfall of HRH in public health institutions have reduced; and possible solutions for mopping of existing available HRH with vacancies in public institutions.

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Methods

Official websites of government health agencies, official reports, and statistics were searched for relevant data on HRH, teaching

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capacity, registered HRH, shortfall of HRH in public health facilities, and existing practices for on-boarding of HRH in public health facilities in the country. We collected the number of sanctioned posts and vacancies of HRH at public health facilities from the sub-centres to the District Hospitals from the reports on Health statistics from 2014–2015 to 2019–2020.

Results

Trends in increase in HR teaching and intake capacity

The government has taken many measures to expand the infrastructure of medical and nursing education leading to the creation of new seats through various schemes and initiatives^[3,4] like:

- i. The Centrally Sponsored Scheme (CSS) for the establishment of new medical colleges attached with existing district/referral hospitals; under this scheme, 47 medical colleges have become functional of 157 new medical colleges approved. Among these 157 approved medical colleges, 39 are in aspirational districts.
- ii. Increasing UG and PG seats in existing State Government/Central Government Medical Colleges.
- iii. The norms for setting up of Medical College in terms of requirement for teaching faculty, staff, bed strength and other infrastructure have been relaxed; the maximum intake capacity at MBBS level has increased from 150 to 250, age limit for appointment/extension/re-employment against posts of teachers/dean/principal/director in medical colleges has been extended to 70 years.
- iv. Further, the ratio of teachers to students has been rationalized to increase the number of postgraduate medical seats; while it has been made mandatory for all medical colleges to start PG courses within three years from the date of their MBBS recognition/continuation of recognition.
- v. The norms for nursing colleges have also been relaxed, namely in terms of requirement of land to construct building for School/College of Nursing and Hostel, student teacher ratio for M.Sc (Nursing) and student patient ratio for Nursing Institutions.

As a result, the number of colleges, annual intake, and production of HRH over the period from 2014–2015 to 2019–2020 has increased significantly, which has also added the resources to the pool [Tables 1 and 2]. There has been an increase of 53.23% MBBS Seats, 79.77% PG seats (allopathic including DNB and CPS seats), 21.24% B.Sc. (Nursing) seats, and 12.38% GNM seats from 2014–2015 to 2019–2020. Further, there has been a 45.20% growth in AYUSH UG and 43.05% in AYUSH PG seats from 2014–2015 to 01.04.2018. The trends of increase in teaching and intake capacity have been detailed in Table 1.

Trends in increase in registered HRH

Growth in teaching capacity has led to an increase in the number of registered human resources; for example, the number of

doctors increased by 28.53%, whereas, the total number of registered nurses increased by 18.88% during the same period. The doctors to nurses ratio decreased from 1:1.98 in 2014–15 to 1:1.83 in 2019–20, which is below the required 1:3 as per World Health Organization (WHO) standards in the said period. The trends of increase in HRH have been shown in [Table 2].

Trends of vacancies existing in public healthcare facilities

The vacancies of HRH as a percentage of sanctioned posts in public health facilities in 2019–2020 compared to 2014–2015 [Table 3] continue to remain high. The vacancies are the highest for allopathic specialists (59.71%) and AYUSH specialists (54.77%), which have changed little for almost all HR cadres. The shortfall in HRH is more in rural areas compared to the urban area,^[5] where two-third of population of the country lives,^[6] which shows an urban bias in the distribution of HRH. The sanctioned posts have also increased in this period.

Discussion

The vacancies in HRH number a few thousands. In contrast, India has a large pool of diverse healthcare professionals, which include around 12,34,205 registered modern (M.B.B.S)^[7] practitioners, 7,99,879 AYUSH practitioners^[8] and 2,74,247 dentists^[9] and 23.41 lakhs registered nurses and midwives^[10] along with 8–11 lakhs allied healthcare workers.^[11] The available strength is enough to fill limited vacancies in public health facilities.

Why are there vacancies in public health facilities despite increase of HR availability?

There is a dichotomy between the increase in production and count of HRH, and their absorption in the healthcare system in the country. One reason for this dichotomy could be that not all registered HRH are active. Of a total stock of 5.76 million health workers in the country including 1.16 million allopathic doctors, 0.79 million AYUSH practitioners, 0.27 million dentists, 2.34 million nurses/midwives, and 1.20 million pharmacist (NHWA, 2018), it is estimated that the number of active health workers is much lower, that is, 3.12 million with 0.80 million allopathic doctors and 1.40 million nurses/midwives (Periodic Labour Force Survey of 2017-18 published by the National Sample Survey Office (NSSO); 27% individuals having qualification of degree in medicine (graduate and above) are not active in labor market and approximately 4% are unemployed and looking for employment. Similarly, only 63% diploma holders, above or below graduate levels have been reported to be currently employed. Active health worker density of doctors and nurses/midwives are estimated to be 6.1 and 10.6, respectively, against the available stock density of 8.8 and 17.7 (as per NHWA), per 10,000 persons for doctors and nurses/midwives, respectively.^[12]

Yet, intake capacity has significantly increased in recent years. The government is working not only on increasing the number, but

Table 1: Trends in increase in teaching/intake capacity of medical and nursing teaching institutions

Category	Colleges			Intake capacity		
	2014-2015	2019-2020	% Increase	2014-2015	2019-2020	% Increase
MBBS UG Course	398	529	32.91%	54348	83275	53.23%
Modern Specialist/PG courses	NA	NA		30191	54275	79.77%
AYUSH graduates (UG Course)	544	702	29.04%	32256	46835*	45.20%
AYUSH Specialist/PG courses	NA	NA		4114	5885*	43.05%
Nursing Staff (B.Sc Nursing)	4648	5181	11.47%	83192 BSc (N) + 1,15,844 (GNM)	100865 BSc (N) + 130182 GNM	21.24%; 12.38%
Pharmacist (D. Pharma + B. Pharma)	735+1023=1758	1614+1211=2825	62.23%	89059	130086	46.07%

Sources: RHS – 2014-2015 and 2019-2020, NHP – 2015 and 2020, NMC Dashboard (accessed on 13.09.2021), Annual report of INC, AICTE dashboard. *As on 01.04.2018

Table 2: Trends in increase in HRH

Category	Registered HRH		
	2014-2015	2019-2020	% Increase
Modern doctors	960233	1234205	28.53%
AYUSH graduates	744563	799879	7.43%
Nursing Staff (RN and RM)	1900837	2259785	18.88%
Pharmacist	673401	1201393	78.41%

Sources: RHS – 2014-2015 and 2019-2020, NHP – 2015 and 2020, NMC Dashboard (accessed on 13.09.2021), Annual report of INC, AICTE dashboard.

also on the distribution of HRH. For instance, out of approved 157 new medical colleges, 39 are in aspirational districts. However, increased capacity and availability of HRH has not been translated into filling vacancies existing in public health facilities.

The various possible reasons behind the existing shortfalls in HRH in public facilities could be requirement of state specific domicile, language barrier, slow, and cumbersome process for recruitments by public service commissions, rural postings requirement, lack of incentives, migration of HRH, and non-availability of adequate funds.

Practices like campus placement are not much evident in public health institutions, which could be one of the reasons for poor attractiveness of public service, especially in case of nursing, paramedical, and allied healthcare professionals. Further, issues of internal and external migration of HRH are also evident, which also affects the availability of HR in different geographical regions. Currently, there is a lack of a mechanism to map available HRH with the vacancies of various categories of health professionals like doctors, nurses, and other paramedical staff existing in public health facilities as per Indian public health standards (IPHS) norms. There does not exist any common digital platform for mapping and dissemination of information on vacancies across the country. Absence of appropriate digital platform is resulting in lack of information to job aspirants, willing to work in specific regions/areas of the country.

Further, posts of doctors and nurses sanctioned in public healthcare facilities remain inadequate, and not as per the required nurses to doctor ratio norms set by WHO.

Internal and external migration of HRH is also an important issue. For instance, according to the Organization for Economic

Cooperation and Development (OECD), around 69,000 Indian-trained physicians were working in the United States, United Kingdom, Canada, and Australia in 2017.^[13] Further, internal movement of the health workforce to urban areas is also common, which creates additional imbalances.

Best practices in filling HRH in public sector vacancies

Many States have taken proactive measures to bridge the gap between availability and recruitment of HRH. Some of these best practices are listed below:

1. Government of Tamil Nadu established Medical Services Recruitment Board (MRB) on 2.01.2012 with the objective of making direct recruitment to various categories of staff in the Health and Family Welfare Department.^[14] Similarly, the Government of Assam established the Medical and Health Recruitment Board for recruitment of Human Resources in public health facilities, medical colleges and AYUSH colleges.^[15]
2. The Department of Health & Family Welfare Government of West Bengal has established the “West Bengal Health Recruitment Board (WBHRB)” to ensure that the healthcare delivery system at the desired level runs effectively and smoothly with the required number of medical/paramedical and other staff belonging to various categories at various levels. The WBHRB is in charge of choosing and recommending candidates for direct recruitment to permanent or temporary positions.^[16]
3. For addressing the gap of allopathic specialists existing in public health facilities, Uttar Pradesh has taken special initiatives like recruitment of modern specialists through a bidding process involving an empanelled agency.^[17]
4. In 2009, the Government of Chhattisgarh and the National Rural Health Mission (NRHM) established the Chhattisgarh Rural Medical Corps (CRMC) to address acute shortages of healthcare workers in underserved, remote, and difficult-to-access areas. For attracting and retaining health workers, such as doctors, staff nurses, auxiliary nurse midwives (ANMs), and rural medical assistants (RMAs) in underserved areas, CRMC has enabled retention provisions such as financial incentives, housing, life insurance, and extra marks during postgraduate (PG) admission to eligible doctors. Various workers in health facilities located in CRMC’s “difficult,” “very difficult,” and “inaccessible” zones

Table 3: Trends of vacancies in public healthcare facilities

Category	Vacancies (number and gap in % against sanctioned posts)		Sanctioned Posts	
	2014-2015*	2019-2020*	2014-2015	2019-2020 (% increase)
Allopathic doctors	13424 (16.88%)	11976 (11.52%)	79529	103952 (30.7%)
Total specialist (Allopathic)	7881 (67.58%)	9026 (59.71%)	11661	15116 (29.6%)
AYUSH graduates	-	2993 (26.74%)	-	11191
AYUSH specialist	-	844 (54.77%)	-	1541
Nursing staff	11757 (15.87%)	18278 (18.67%)	74098	97880 (32%)
Pharmacist	5456 (19.30%)	6844 (18.85%)	28263	36300 (28.4%)

Source: Rural Health Statistics Reports 2014-2015 and 2019-2020. *Excluding surplus availability (if available in any state for any cadre)

are required to serve for a minimum of four years under CRMC. In addition to their monthly income, they are paid a monthly incentive based on the kind of staff cadre and CRMC posting location. CRMC includes provisions for staff insurance under Group Medical Insurance against death or permanent disability caused by accidents, as well as a payout of INR 10 lakhs in the event of a staff member's death while performing duties due to a Maoist attack. During admission to the PG course against State Government reserved seats, eligible MOs who have served for at least two years are given extra marks. Since the implementation of CRMC in 2010–2011, 1319 health workers have joined CRMC regions, reducing the vacancy rate from 90% to 45% across facilities. In 2011–2012, it had risen to 1658, with the majority of the staff stationed in challenging locations.^[18]

Way forward

The issue related to vacancies of HRH in public health facilities needs to be dealt with in a mission mode by special measures. Some of the measures for consideration of the government are:

- A mechanism needs to be developed for campus placement in medical, nursing and para-medical/allied health professional institutes to absorb available HRH in public health facilities.
- Creation of a common national level web portal for displaying vacancies and job opportunities for medical and paramedical staff members in different public facilities of the country from Sub-Centres to District hospitals. This will provide information to aspirants regarding notified vacancies and provide a platform to apply for work in particular regions/areas as per their choices. Provision for registration of various healthcare professionals with basic information can also be made. District-wise vacancies can be uploaded on this portal for information of aspirant candidates. This may result in improved availability of HRH in public health facilities especially in rural, remote, and underserved areas.
- Provision for paid internships, observership, and apprenticeships in public facilities after completion of respective degree courses can be considered.
- Provision for assured career progression can be made, as also promotion of eligible professionals as teaching faculty at premier State or Central Institutes, similar to the practice followed in Armed Force Medical Colleges.
- A modern and responsive HR management system may be developed to ensure recruitment in an efficient and

transparent manner. It must ensure that those with equivalent qualifications are treated equitably in terms of wages, welfare, promotion, and training opportunities. One such initiative is Manav Sampada (e-HRMS),^[19] which was initially implemented in the state of Himachal Pradesh and later adopted by many states.

- Health workers may be recruited on a contractual basis through walk-in interviews till the filling of regular/permanent posts. A mechanism may also be developed for regularization of contractual employees.
- The posts in different cadres need to be sanctioned proportionately as per the prescribed standards. The WHO norm of nurses to doctors is a case in point.
- Postings after recruitment can be made through counselling process, so that the candidates can choose the place of posting among available places as per their choice.
- Incentives in form of extra weightage for those who have done rural posting may be provided in the National Eligibility cum Entrance Test (PG) examination.
- The discipline of Family Medicine needs to be promoted and capacity needs to be built for the same. Physicians of Family Medicine take professional responsibility for providing comprehensive care to unselected patients with undifferentiated problems, irrespective of age, gender, illness, or organ system.

These measures may help in enabling better availability of HRH in public health facilities, which will contribute towards better health services in these facilities. It is vital for achieving Sustainable Development Goal-3 and reducing out of pocket expenditure. *WHO Global Strategy on Human resources for Health: Workforce 2030* Report also envisages that health, social, and economic development outcomes can be improved by ensuring universal availability, accessibility, acceptability, coverage, and quality of the health workforce through adequate investments to strengthen existing health systems along with implementation of effective policies at regional, national, and global levels.^[20] The High level Commission on Health Employment and Economic Growth emphasized that a targeted investment in health workforce contributes in promoting economic growth through various pathways, which include improved productivity and output, social protection and cohesion, social justice along with health security. It further finds that investments in health workforce tied with the right policy action could result in enormous socioeconomic gains in quality education, gender

equality, decent work, inclusive economic growth, and health.^[21] Therefore, it is vital to have an equitably distributed HRH, which is accessible to the population. For which, the measures discussed in this paper can play a vital role.

Key messages

A mere increase in teaching capacity or number of Human Resources for Health does not translate into a significant reduction in vacancies in public health facilities. Special measures are necessary to attract and sustain HRH.

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Conflicts of interest

There are no conflicts of interest.

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