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A Quantitative study to understand the barriers and the motivation of Specialist Doctors to work for National Health Mission (NHM), Uttar Pradesh at remote locations

By
Dr. Sakshi Sharma
PG/17/050

Under the guidance of
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Post-Graduate Diploma in Health and Hospital Management
Batch 2017-19

International Institute of Health Management Research,

New Delhi
2019

The certificate is awarded to

Dr Sakshi Sharma

in recognition of having successfully completed her
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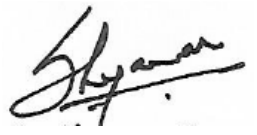

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- To facilitate in conducting Focused Group Discussions (FGDs)
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A Quantitative study to understand the Barriers and Motivation of Specialist Doctors to work for the National Health Mission (NHM), Uttar Pradesh at remote locations

Dr Sakshi Sharma
Health IT Batch

Abstract:- The shortage of specialists, especially in rural areas, is one of the major concerns in India, which in turn affects the effective delivery of health care services. 35 specialists from 3 specialities- Obstetricians (10), Anaesthetists (8) and Paediatricians (17) are being interviewed in public and private facilities by two methods i.e In-Depth Interview (17) and Online (18) through structured questionnaire to assess what are motivational factors and barriers faced by specialists doctor to work for NHM, UP at remote locations. The 5 motivational factors which encourage specialist to opt for remote location are need & demand for specialists in the community (66%), greater exposure in a challenging environment (83%), job security (83%), work hours/day duties (91%), proximity to home (83%). The factors which are considered as barriers by specialists are the absence of two-way communication between supervisor and management (83%), lack of protocols (89%), cumbersome bureaucratic procedures (94%). The recommendations made are as per Maslow's theory of Organizational Behaviour. Meaning basic hygiene needs (house, money, education, family comfort etc.) is essential for all and cannot be compromised for anyone; but it's the self- esteem and social recognition, which motivates people to work on. Factors such as compensation structure; social and work environment; governance and management are few areas that need to be focused on more for encouraging specialist and most importantly retaining them.

ACKNOWLEDGMENT

"Knowledge is in the end based on the acknowledgment."

-Ludwig Wittgenstein

On the very outset of this report, I would like to extend my heartfelt & sincere gratitude towards all the personages who have helped me in my endeavor. Without their active guidance, help, cooperation & encouragement, I wouldn't have been able to make headway in this project.

I am indebted to Dr. Shyama Nagarajan, Dr. Vishal Garg, Ms. Narmada Purohit for their guidance and encouragement to accomplish this assignment.

I am extremely thankful and pay my gratitude to my mentor Dr. Nishikant Belle and the faculty of IIHMR, Delhi for their valuable guidance and support in seeing this project to its end.

In the end, I would like to acknowledge with a sense of reverence, my gratitude towards my family and friends who have believed I me, every step of the way.

Any omission in this brief acknowledgment does n0t mean lack of gratit8ude.

Thanking You

Dr. Sakshi Sharma

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ACRONYMNS/ABBREVIATIONS

NHM	National Health Mission
MDG	Millennium Development Goals
UP	Uttar Pradesh
IHAT	Indian Health Action Trust
IDIs	In-Depth Interview
FGDs	Focus Group Discussion
MDGs	Millennium Development Goals
UHC	Universal Health Coverage
HRH	Human Resources for Health
WHO	World Health Organization
FRU	First Referral Unit
HWA	Health Workforce Australia

Introduction

The shortage of specialists, especially in rural areas, is one of the major concerns in India, which in turn affects the effective delivery of health care services. Nearly 600 million people in India, mostly in rural areas, have little or no access to health care. The National Rural Health Mission (currently rechristened as NHM to embrace reform in urban India) has made significant strides in terms of the decadal reform undertaken in building public health infrastructure and enhancing the quality of service delivery across states. However, the pace of reform and its impact of Millennium Development Goals (MDGs) has varied across states.

While Uttar Pradesh has made significant improvement to attain better health care for its population by designating First Referral Units, operationalizing Ambulance services and Mobile Medical Units, providing increased access to diagnostic services on the public-private partnership model; lack of specialists such as Obstetricians, Anaesthetists, and Paediatricians in public facilities is impacting the state's ability to utilize its infrastructure and resources adequately and appropriately to offer health care in remote locations. The 2016 'Rural Health Statistics' reports a shortage of 84 percent medical staff across the country.

Aim

Therefore, the Uttar Pradesh Technical Support Unit (UP-TSU), India Health Action Trust (IHAT) commissioned the study to understand the factors influencing motivation and retention of specialists at primary health care facilities in rural/ remote locations of Uttar Pradesh

Objectives of the study

The study was conducted in UP with three categories of specialists— Gynaecologists & Obstetricians, Anaesthetists and Paediatricians, who are either Early Career or are Experienced Specialists, with **two main objectives:**

- Identify barriers to the Specialists for working in rural locations in Uttar Pradesh
- Determine the motivating factors for the Specialists (Gynaecologist & Obstetricians, Paediatricians, and Anaesthetists) to work in rural locations in Uttar Pradesh.

Scope of study

The scope includes specialists from the private sector (i) who are currently working in public facilities through the current contractual recruitment system under NHM, (ii) who had joined the public facilities under the NHM recruitment policy but left in between, (iii) and those who never joined the public healthcare delivery system.

Methodology

The study adopted a **deliberative and consultative approach** to undertake the exploratory study.

Study Design

This was a *cross-sectional study* that was conducted in the state of Uttar Pradesh. Primary research was conducted to understand and explore the discouraging and encouraging factors affecting health care workers (**Gynaecologist & Obstetricians, Paediatricians, and Anaesthetists)** interest towards working in rural areas along with understanding the context and mechanism behind that interest.

Primary Research: The research used a structured questionnaire to obtain richer information and substantiate the data collected through the quantitative structured guide. Two methods of data collection were used: In-depth interviews (IDIs) and online method.

Table 1: Exploratory Design

Study Population

The current study is a part of broader mixed method study which included 35 health care workers (both early and experienced specialists) covering all the medical colleges and hospitals of UP. The average years of practice for early specialists were below 10 years and experienced specialists were above 10 years of practice.

Table 2: Sampling of respondents for the study

Categories of specialists	Specialists
Online	18
In-Depth Interviews (IDIs)	17
TOTAL SAMPLE SIZE	**35**

Data Collection

A prior written informed consent was taken from the participants. The participants were ensured about anonymity and confidentiality while reporting the results. The IDIs were conducted by medical research professionals having an experience of 2 years.

Data Analysis

The quantitative data were processed and analyzed using Excel.

Findings

Secondary Research Findings

As per the Census of India (2011), Uttar Pradesh (UP) is the most populous state of the country with a population of 19,95,81,477.[1] The State has 18 divisions, 75 districts, and 822 blocks.[2] The sheer number of people in UP makes UP relevant to India, affecting the national health status through a sheer number of its populace. And therein lays the challenge of improving the performance of the public health system in U.P. The health indicators for Uttar Pradesh vis-a-vis India and its best performing states such as Kerala and Tamil Nadu described in Table 3 reflects on the performance gap that UP needs to bridge, to reach the national average, leave alone the best states.

Table 3: The regional health indicators of India: Uttar Pradesh, Kerala & Tamil Nadu

	Crude Birth Rate	Crude Death Rate	Infant Mortality Rate	Maternal Mortality Rate	Neo-natal Mortality Rate	Under 5 Mortality Rate
India	18	7.1	34	130	28	43
Uttar	23.8	7.1	43	201	35	44

[1] www.Censusofindia.com
[2] http://up.gov.in/upecon.aspx

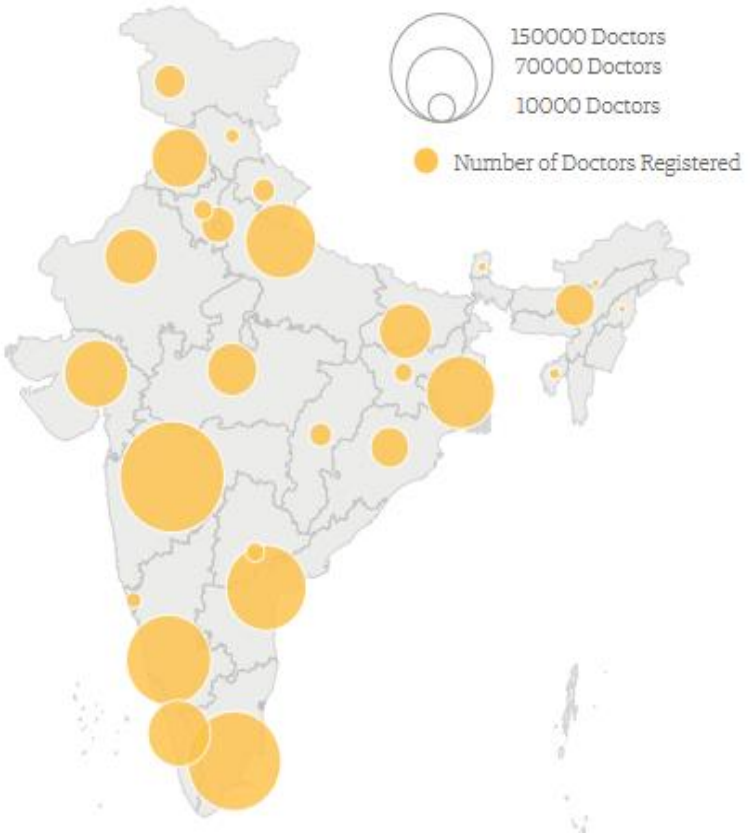
Pradesh						
Kerala	13.1	7.4	10	46	6	9
Tamil Nadu	13.4	8.5	17	66	15	17

Source: Niti Aayog

UP notwithstanding, India, having failed to achieve most targets under Millennium Development Goals (MDGs) by 2015, has re-committed itself to achieve nine health-related targets under Goal 3 including 'Universal Health Coverage' (UHC) under the Sustainable Development Goals (SDGs) to be achieved by 2030.[3]

Demand and Supply of Human Resources for Health (HRH):

Figure 1: No. of doctors registered with State & Central Medical Council of India as on March 2015



To this effect, adequate availability of such human resource is a necessary pre-requisite for desirable health outcomes. [4] However, the shortage of human resources in healthcare services is a cause of concern in several countries particularly in developing countries like India. It is not merely the shortage, but also the composition of this shortage and its distribution across geographies makes matters worse. Therefore, the international organizations, global community, and the policymakers across countries are seriously considering the need to address challenges related to shortages and distributional aspects of human resources in the healthcare sector. Human resources for health (HRH) typically comprises of health professionals skilled and non-skilled workers ranging from doctors, nurses and other paramedical staff.[5,6,7]Estimates suggest

[27] https://www.researchgate.net/publication/327338194_India's_struggle_with_manpower_shortages_in_the_primary_healthcare_sector
[4] https://mpra.ub.uni-muenchen.de/85217/1/MPRA_paper_85217.pdf
[5] The World Health Report 2006: Working Together for Health; World Health Organisation (WHO), Geneva.
[6] Global strategy on Human Resources for Health: Workforce 2030; World Health Organisation (WHO), Geneva.
[7] WHO (2016b), "Health workforce requirements for universal health coverage and the Sustainable Development Goals", Background paper No. 1 to the Global Strategy on Human Resources for Health, Human Resources for Health Observer 17, Issue 1.

that worldwide the demand for health workers is expected to double to 80 million by 2030 leaving a global shortfall of 18 million; primarily in the low and lower-middle income countries.[8]

However, since this study focuses on the challenges around retaining clinical specialists, we have restricted our research to this segment of healthcare workers-*"The doctors"*. India has 7 doctors for every 10,000 people, which is less than the World Health Organisation (WHO) recommended the doctor-population ratio of 4.84:10,000. The Medical Council of India (MCI) report suggests that between 2010- 2017, allopathic doctors registered with the MCI or with the state medical councils stands at 10,41,395. Thus, to achieve a moderate doctor-population ratio of 1:1000 by 2030, the country requires a registered stock of 2,074,350 doctors, so as to make available 1,476,000 active doctors in practice, after discounting for retirements and migrations by 2030. This would have required the registered stock of medical professionals to grow @ 151% in the next 20-year period over the stock of 2010. Given the current growth rate of 14.41% over a 5-year period between 2010 and 2014, 151% looks like an impossible target to achieve in the rest of the 10-year period.[9] As per the National Health Profile, 2018, released by the Central Bureau of Health Intelligence revealed that Uttar Pradesh ranks 2nd in terms of doctor workforce crisis with a doctor to patient ratio of 1:19,962; preceded only by Bihar that has one allopathic doctor to serve a total population of 28,391 (as shown in Figure 1).

However, the state administrative data does not reflect the same shortage of doctor workforce in its public healthcare delivery system and reports near optimal numbers of doctors; especially in terms of number of paediatrician and gynaecologists; even as it hires doctors as 'bid consultants' since 2018 to serve in public hospitals as shown in the table below.

Table 4: Infrastructure of Healthcare Sector of Uttar Pradesh (Source: National Health Mission, 2015)

Particulars	Required	In position	Shortfall
Sub-centre	31037	20521	10516
Primary Health Centre	5172	3692	1480
Community Health Centre	1293	515	778
Doctor at PHCs	3692	2861	831
Obstetricians & Gynaecologists at CHCs	515	475	40
Pediatricians at CHCs	515	547	*
Total specialists at CHCs	2060	1740	320

Source: Directorate of State Health Services

This discrepancy in data can be attributed to:

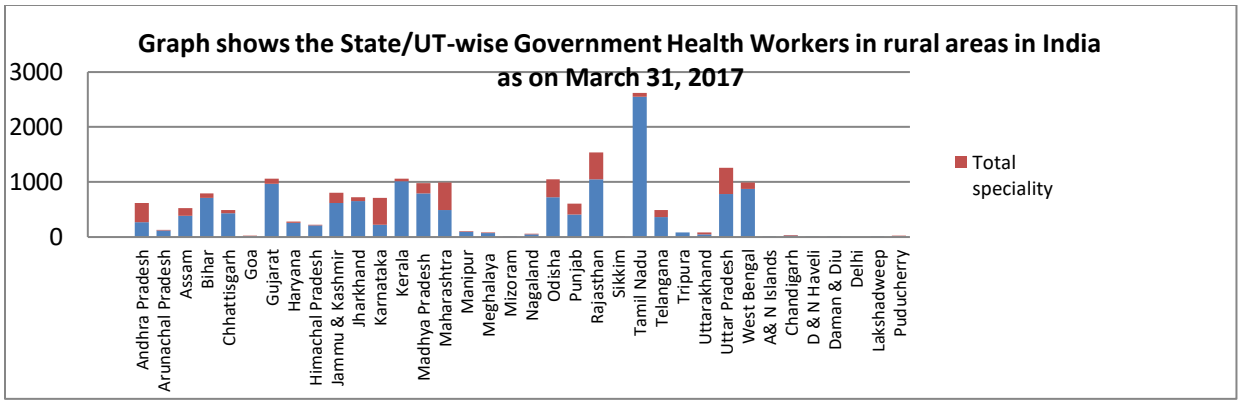
[8] https://www.who.int/hrh/labour-market/en/
[9] Potnuru Basant; Aggregate availability of doctors in India: 2014–2030. Indian Journal of Public Health. 2017;61(3):182-187

- Lack of a centralized data management system to review and ensure data reliability and updating of the national and state data repositories.

- Lack of a centralized data repository and management system to clearly review the demand and supply of doctors. Without the availability of such validated data, it is unclear as to how the state's planning and fund allocations can be effectively utilized.

The NHP, 2018 further reflects that the number of allopathic doctors available in rural areas is close to the national average of 750-850 doctors, of which specialists are around 500-600 in numbers. However, if see the best performing states like Kerala, Gujarat, Karnataka and Tamil Nadu reports a high number of availability of allopathic doctors in rural areas, instead of specialists in the same area as shown in the figure below.[10] This distribution of specialists versus medical officers in rural areas raises the question on the ability of the state to suitably strategize the need and distribution of its doctor workforce in terms of its ultimate goal to achieve the SDG as regards MCH by 2030. As per the Common Review Mission (CRM) report 2016, except for 1 contractual anesthetist all the 6 sanctioned regular posts in Jhansi district were vacant and AYUSH MOs were recruited instead.

Figure 2: Specialists strength in various states

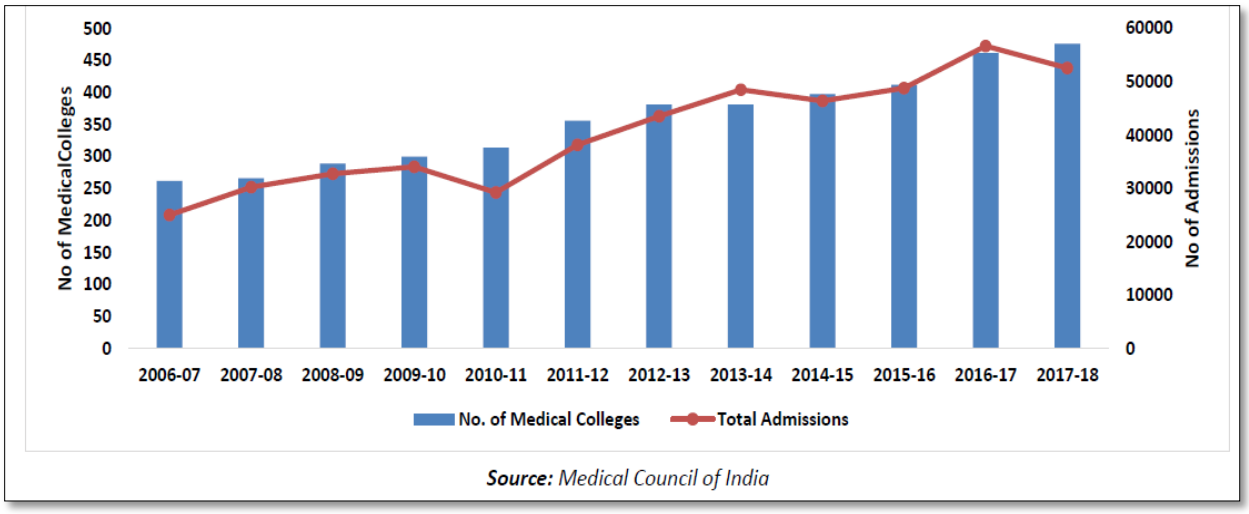


Data Source: Bulletin on Rural Health Statistics in India 2017, Statistics Division, Ministry of Health & Family Welfare

Existing workforce shortage notwithstanding, there's a shortage of production as well. While, the doctor workforce crisis is addressed at the national level in the last decade by adding the number of medical schools from 256 (2006) to 479 (2017); the Union Health Ministry had to bar 82 out of 479 medical colleges (70 out of 259 privately-owned medical colleges) from admitting students for the session 2018-19 owing to lack of adequate infrastructure. [11]

[11]https://www.downtoearth.org.in/dte-infographics/61322-not_enough_doctors.html

Figure 3: Number of medical colleges and admissions in India from 1991-92 to 2017-18



Source: *Medical Council of India*

The Government of UP has increased its budget layout for the healthcare sector by 10.7% in 2018-19 as against 9% in 2017-18.[12,13]While the budgetary outlay in FY 2018-19 had made provisions for creation of newer infrastructure, such as operationalizing 170 Mobile Medical Units on a public-private partnership (PPP) mode and establishment of 100 new Ayurvedic hospitals; it is unclear as to how much has been laid aside to maintain the specialist capacity of the existing hospitals.

Barriers in Uttar Pradesh Public Health Workforce*:* Nandan & Agarwal (2012) in their paper on human resources for health in India have highlighted the need for an urgent need for reforms in financial and non-financial incentives (such as - low salaries, poor working conditions) to retain qualified manpower and create provider friendly HR policy. He further highlighted that in whichever state HR policy existed, the forecasting, deployment, career progression, and retention of HR were not addressed in its framework. This was attributed to a lack of dedicated cell for HR planning, especially forecasting requirements, and taking into consideration the changing disease profile, population dynamics, and composition. Shortage of skilled HR apart, poor quality of training in medical colleges on account of unavailability of faculty, lack of availability of clinical material and the present environment in examination system have been attributed as reasons for the shortage of specialists.[14]

The story in UP has been no different and has revealed the following as barriers to retaining qualified specialized doctor workforce:

1. Lack of candidates to fill vacancies.
2. Nonprovisional of wait lists for regular appointments and irregular recruitment process; leading to permanency around the vacancies.

[12]https://www.prsindia.org/parliamenttrack/budgets/uttar-pradesh-budget-analysis-2018-19
[13]https://www.prsindia.org/parliamenttrack/budgets/uttar-pradesh-budget-analysis-2017-18
[14] Nandan. D, & Agarwal. D (2012). Human resources for health in India: urgent need for reforms. Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine, 37(4), 205-6.

3. Lack of comprehensive strategy to attract and retain healthcare providers in rural areas.
4. Lack of Training plan and post-training deployment plan.
5. Inadequacy of financial incentive to make a difference to attract specialists and offset opportunities lost.
6. Lack of system for performance appraisal and workforce engagement, particularly the contractual workforce in terms of their renewal process, pay parity with regular employees and increments.
7. The inappropriate and huge salary gap between contractual and regular workforce creating resentment in the existing regular workforce

We, therefore, looked into the basics of organizational behavioral research in other sectors and compared as to how these HR retention strategies and motivating factors work for the health sector. Our secondary review in health sector revealed that the "Theory of Human Motivation"--the Maslow hierarchy pyramid of 5 stages in human needs that are said to motivate people to strive for any particular goal applies even to the health sector; and is ever-changing, moving from lower levels to higher levels as reported in some of the best practices reported in India. Therefore, we have tried to review as to how the strategies and best practices adopted in India map to Maslow's theory.

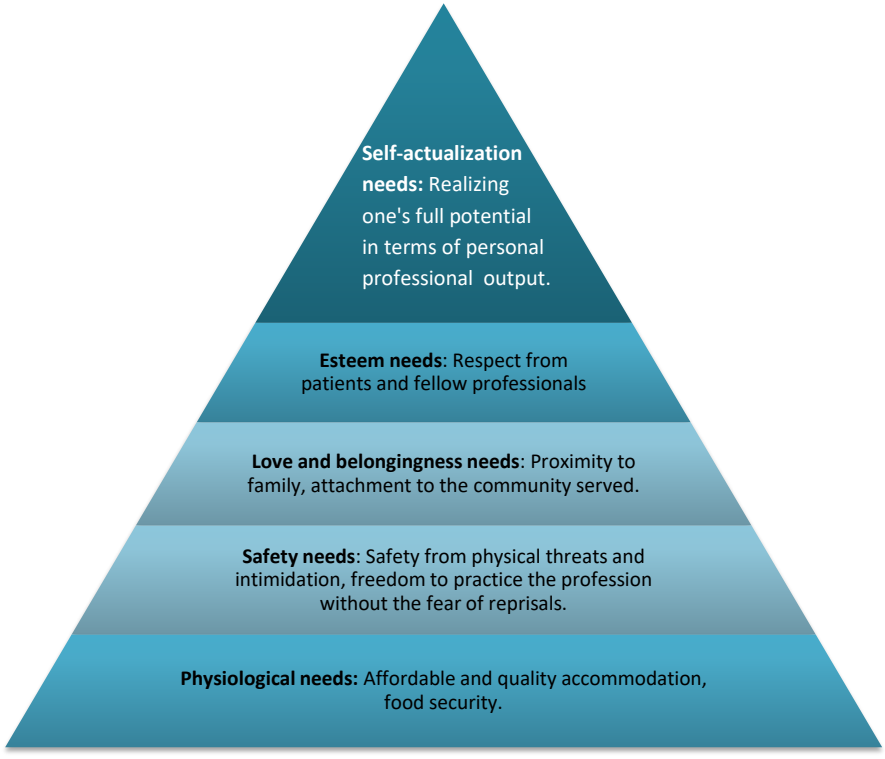


Figure 4- Maslow Hierarchy Pyramid

Strategies for retaining specialists in the public sector, especially in rural areas

Our search of the existing best practices in India to retain specialized manpower revealed a strong case for the creation of **dedicated Public Health Cadres, of multi-disciplinary professionals for**

managing public health programs, without being burdened with treatment and care services. For instance, The Indian Public Health Association recommends the creation of a specialized cadre of Public Health Managers to efficiently manage the public health system and services.

The Ministry of Health and Welfare's strategy document for RMNCH+A has emphasized the importance of creating "new public health cadre". Babu et al in 2011 has highlighted the need for India to move away from implementing narrowly defined vertical health programs to managing an efficient health system at all levels *(Babu,2011).* ***The Government of India has constituted an expert group to provide necessary assistance to state governments in establishing, training, and mentoring the managerial public health cadre.*** Several state governments such as Karnataka already have a dedicated cadre of public health managers inducted into their health workforce.[15]

Tamil Nadu is a case study on the novel approaches taken to have improved HR policy. In their policy research paper, Das Gupta et al. (2009) drew on the Tamilnadu public health system for lessons learned to address the weaknesses of public health systems. In 1952, ***Tamil Nadu made a policy decision not to integrate its medical and public health services.*** The state has a ***separate Directorate of Public Health, which is staffed by a cadre of trained public health managers,*** who are promoted to the Directorate after several years of experience in planning and oversight of public health programs and services in urban and rural areas. These managers are assisted by non-medical specialists (such as entomologists and statisticians) with strong first-hand experience of working on the ground. ***As separate from the "medical cadre", this public health managerial cadre is a Techno-Managerial cadre of medical officers trained for an administrative and management viewpoint rather than a clinical role***. This system enables Tamil Nadu to-

- Undertake long-term planning and avert disease outbreaks and resurgence;
- Manage endemic diseases, disasters, and emergencies;
- Support rural and urban local bodies in protecting public health.

Most states' however have focused on physiological and safety needs, the lowest in the pyramid of Maslow's theory while strategizing on incentivizing retention of doctors in rural posts of public hospitals. For instance,

- MP increased the compensations in public sector 3.3 times that of the private sector.
- Similarly, other states like Odisha, Bihar, Assam, Haryana, Rajasthan, Kerala, Punjab, Karnataka, and Himachal Pradesh have created differential compensation structures to allure doctors in the public sector. The monetary incentivization at HP ranges from Rs 3,000/- to 25,000/- per month, payable over and above the salary for working in difficult areas or in high priority districts and tribal areas.
- Chattisgarh has integrated the monthly honorarium along with group insurance scheme.
- Flexible postings & walk-in interviews were also implemented in other states like Punjab, Haryana, Bihar, Gujarat, and Karnataka

[15]http://www.chwcentral.org/sites/default/files/Strengthening-Indias-Public-Health-Workforce

- MP has also smoothened the process of recruitment and retention of doctors within the system by encouraging walk-in interviews; assuring extension of the post after completion of tenure; and automatic extension after retirement, especially for clinical specialists & transfer with mutual consent.
- Chattisgarh has made provisions for additional compensation up to Rs.10 lakhs in the event of loss of life due to Naxalite attacks. Chattisgarh has also assured posting in general area after completion of tenure in rural areas.
- Strategies like compulsory rural services for a defined period were implemented in Orissa and Karnataka and Himachal Pradesh has gone one step ahead in regularising the contractual staff after a period of 6 years service in rural areas along with semi furnished accommodation for staff working at difficult areas.

Addressing basics hygiene issues by providing monetary incentives, while has importance in terms of market competitiveness and relevance, but has not resulted in the expected retention of all categories of medical professionals. For instance, in MP the increase in compensation for contractual doctors has resulted in maintaining the norms (3-4 pediatrician and 12 nurses per unit) of availability 3.25 pediatricians and 11.14 nurses per unit and increased the utilization of SNCUs in MP to assure improved health outcomes for sick neonates. However, the same has not been successful for retaining Anaesthetists in rural MP for supporting obstetric services.

Continuing on the next level of Maslow's hierarchy on addressing belongingness within peer groups and enhancing self-esteem within the social environment, states have assured opportunity of post-graduation after serving for a defined period in rural posting. This has been primarily aimed at medical officers who have been in the system and haven't been able to bag a seat over the years. For instance,

- States like Punjab, Haryana, Bihar, Gujarat, and Karnataka have assured PG admission after defined rural postings.
- Karnataka has made provisions for pre and in-service training, HR development program to elevate skill sets
- Chattisgarh has relaxed the qualifying service period for admission in PG course from 5 to 3 years.
- Sikkim has integrated both monetary and capacity building incentives; and has provided for in-service post-graduation study benefits in lieu of 3 years rural posting; incremental monetary incentives to doctors for having higher qualification like PG diploma (one increment), PG Degree (2 Increment) and for Post-doctoral(3 increments).
- As shown in reports, MP has adopted multi-pronged approach by addressing both physiological, safety and belongingness needs of specialists and they were sent centers of excellence in other states like PGI Chandigarh for two weeks observership and CMEs and workshops that are organized regularly.
- Haryana revised its HR policy to post its specialists only in District Hospitals /CHCs, that too in the preferred location, with no transfers until completion of three years' term.

Efforts notwithstanding, evidence has proven that states that have created overarching governance mechanisms and topped monetary incentives with non-monetary benefits to enhance the quality of life and dignity of labor have worked better in sustaining results, as regards retaining specialized manpower. For instance, Karnataka and Tamilnadu have implemented efficient, transparent, online health workforce management mechanism (HRMS-HR management system) through compulsory rural posting, rationalization of cadre/posts, transfers based on the availability of vacancy and sequence in which application was received and need-based HR restructuring.

International "Good Practices" documented

It is clear from other countries that significant change in a sector of health service "requires a solid blueprint, pilot testing, and evidence generation, a long-term vision, and sustained financial and political commitments" to address the problem of primary care doctor recruitment and retention [16].

International experience has also shown that non-monetary incentives have worked better than monetary incentives. The monetary incentives are merely hygiene factors to respond to the demand-supply gap for qualified technocrats. Health, education, and safety are basic building blocks to foster growth and development of a nation. Mere monetary incentives, as seen in some of the low-income countries have only served to keep the system afloat and surviving.

Several studies have shown that financial incentives alone are not sufficient for retaining workers in the health sector. According to an analysis by Vujicic et al. on the role of wages in the migration of health professionals from developing countries, the wage differentials between source and destination countries are so large that small increases in wages in the developing countries are unlikely to make a significant difference to migration patterns. A qualitative study of doctors in Samoa revealed that several doctors received regular pay increases, pensions, and housing allowances, and appeared to be relatively satisfied with their jobs. However, due to their long working hours, overburdened workloads, inadequate pay structures and a large number of family members living overseas, migration remained an attractive option.[12]

A survey of 271 female general practitioners and 31 specialists in rural Australia found that 36% of general practitioners and 56% of specialists would prefer to work fewer hours. Results indicated that incentives to attract and retain women in rural practice include flexible practice structures, acceptance of the rural area by the doctor's family, mentoring by women doctors, and financial and personal recognition.[12]

Some of the notable international approaches to retain specialized manpower are:

Bonding and mandatory service requirements for recipients of government scholarships have been tried over the years by Pacific countries with limited success. 'The Pacific Code of Practice for Recruitment of Health Workers in the Pacific Region' developed together with WHO and the Secretariat

[16] Verma, P., Ford, J. A., Stuart, A., Howe, A., Everington, S., & Steel, N. (2016)

of the Pacific Community provides a framework for better managing the loss of skilled health workers through migration. An important element of the code is ethical recruitment that includes fulfilling contractual obligations, such as a bond to the government for those who benefited from national scholarships, prior to international recruitment. For instance;

- In Thailand, doctors are required to fulfill three years of compulsory public service after finishing their training including 1 year of rural posting with a penalty on the contract has worked.
- Two Japanese studies were done by Matsumoto M, Inoue K, Kajii E closely scrutinized a strategy which obligated students to a nine-year service agreement in their home region in exchange for fully funded undergraduate training (medical school).[17],[18]. It is found that, after the nine years, students were 4.2 times more likely to work in rural areas compared to non-obligated students.[19]

Performance-based incentives are receiving increasing interest from health systems worldwide, though evidence on the effectiveness of these incentives in Pacific and Asian countries is limited. For instance,

- In Sri Lanka, performance-based non-financial incentives such as career development, training opportunities and fellowships were found to be appropriate for central and provincial managers, while hospital managers preferred financial incentives.
- *In Cambodia*, the government and development partners implemented the Merit-Based Payment Initiative in 2005 accompanied by a rigorous performance management system has been reported as effective in the Ministry of Finance. At present, the government is bearing 11% of costs, with its share increasing each year to reach 35% by 2011. The performance-based financial incentives for health workers in Cambodia has led to better quality health services, increased health worker productivity and reduced informal user fees.[12]
- In Indonesia, after the completion of compulsory public service, health workers who work in very remote areas receive a higher salary and the guarantee of a civil service career that is highly desirable since it allows for private practice in the evenings as well as free access to specialist training.
- In Cambodia, the contracting experiment to improve the performance of health workers has proved to be successful, yet results indicate problems in sanctioning penalties to violations that were documented.
- *A study in China* found that the 'bonus system' led to improved productivity and cost recovery. However, there was an increase in unnecessary care and admittance of patients, including the over-prescription of drugs.

[17] Matsumoto M, Inoue K, Kajii E. A contract-based training system for rural physicians: follow-up of Jichi Medical University graduates (1978–2006) J Rural Health. 2008;24:360–8. doi: 10.1111/j.1748-0361.2008.00182.x.

[18] Matsumoto M, Inoue K, Kajii E. Long-term effect of the home prefecture recruiting scheme of Jichi Medical University, Japan. Rural Remote Health. 2008;8:930

[19] Matsumoto M, Inoue K, Kajii E. A contract-based training system for rural physicians: follow-up of Jichi Medical University graduates (1978–2006) J Rural Health. 2008;24:360–8. doi: 10.1111/j.1748-0361.2008.00182.x

It is therefore important to design performance monitoring systems in a way that it does not result in undesired outcomes. Ideally, a performance-based incentive system should include monitoring of both process and outcomes.[12]This means that effective incentive systems require regulation and governance structures that minimize problems of patronage and corruption. [12]

Safe working and living conditions also contribute to worker satisfaction. A clearer understanding of health worker needs can contribute to initiatives to improve working and living conditions in a particular area.[12] For instance,

- Safety is an important factor in countries such as Papua New Guinea, where the risk of violence is high. Violence against female health workers, including physical assaults and bullying, is a particular problem worldwide.
- In Tonga, security was an issue for nurses posted to remote locations [4]. Some research findings suggest a direct link between aggression in the workplace and increased sick leave, burnout and staff turnover.

Compensation structure has worked better in low income and underdeveloped countries. For instance,

- A survey of 100 public doctors in Bangladesh suggested that dual practice allows health workers to retain the status of a government job while minimizing opportunity costs and economic losses, especially at the beginning of their career. Ideally, incentives structures should recognize the different stages in health workers' careers and the various expectations at each stage. [12]
- A study in Cambodia found that dual practice is an attractive arrangement that ensures that health workers can maintain a strong professional reputation, job security, training opportunities and career progression from their public positions while increasing their earnings from the private sector.[12]
- *In Thailand,* special hardship allowances are provided for doctors to remain in rural areas. The allowance has three tiers based on location: rural districts, remote districts, and the most remote districts. Doctors in the most remote districts received US$500 a month – almost three times their basic salary. A non-private practice allowance of US$ 400 a month was given to doctors who agreed not to engage in private practice, and special workload-related payments were implemented for service in non-official hours. In total, a new medical graduate working in a rural district received between US$ 825 a month (in regular districts) to US$ 1379 a month (in the most remote districts). But this was still lower than the salary of a new graduate working in private practice in an urban area, which was at least US$ 1500 a month.[12]
- *In Vietnam, Cambodia, and Indonesia*, it is widely accepted that public health workers maintain a private practice to subsidies their government incomes. In Indonesia, more than 80% of public doctors are involved in some form of private practice. In Phnom Penh, Cambodia, 90% of a doctor's total income from dual practice is derived from the private sector, while in Thailand, doctors' earnings from private practice constitute 55% of their total income.

Recognition, belongingness to team and appreciation by managers, colleagues and the community has served as a major motivator. For instance,

- In Vietnam, lack of positive feedback for good performance, consideration of appraisal process mere administrative purposes instead of an opportunity for performance improvement was considered a major barrier.[12]
- *In some settings in the Asia-Pacific region*, it was practical and culturally acceptable to offer incentives to teams rather than individuals. Performance management for teams must be built on group identities, with awards designed for teams. Measures of performance included group productivity, motivation, and achievement of objectives. Health system measures may include service utilization and quality-of-care indicators.[12]
- In Thailand, the establishment of rural professional society – the Rural Doctor Society – improved the skills of health managers and enhanced the social recognition of health workers and, hence, their job satisfaction.[12]

Governance and Management policies are the levers of innovation and reform, immigration, training capacity, and efficiency and workforce distribution in any healthcare setting. Most developed countries have addressed their challenges of recruiting and retaining medical workforce as a unified holistic transparent strategy to be implemented over the long term over 10-15 years and sustain the same.

- *The Australian Health Workforce Australia (HWA)* is a testimony of the aforementioned statement. It was established by the Council of Australian Governments as the national agency to review the progress of health workforce reform to address the challenges of providing a skilled, innovative and flexible health workforce in Australia. For these five policy proposals relating to were approved by the Standing Committee on Health:

a) Improved productivity through workforce innovation and reform
b) Improved mechanisms for the provision of efficient training
c) Addressing barriers and enablers to workforce reform
d) Streamlining clinical training funding
e) Considerations for achieving national self-sufficiency.

HWA is currently pursuing two work programs specifically relevant to the retention and distribution of the health workforce, especially nursing.[20]

- *NHS England* committed £10 million to implement a strategic ten point GP workforce action plan in 2015 to improve recruitment, retention, and support for returning doctors. [21] The initiative is a combination of addressing hygiene factors of salary for GPs, especially in rural/underserved areas; long term training incentives including induction, retainer schemes including those for Experienced GPs towards the end of their careers to develop a portfolio career.

[20] https://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-12-7
[21] NHS England, HEE, RCGP, BMA, Building the Workforce – the New Deal for General Practice 2015

- *The National Health Service Corps (NHSC) scheme in the USA* is also one notable scheme which used financial incentives, loan repayment or scholarship throughout their medical education to retain doctors.[22] The study with a comparison group showed that NHSC participants had a lower retention rate as compared to non-NHSC participants (29 % versus 52 %, p-value < 0.001).[23]
- *Brazil* was able to increase the density of its doctors over the last 20 years, from 1.12 doctors per thousand population in 1990 to 1.95 in 2015, to meet its growing demand for public and private medical care establishments, skewed distribution of workforce.[24, 25] The Brazilian Health Ministry created the Health Work & Education Management Department (SGTES) in 2003 to formulate policies for management of work in health; training and qualification of healthcare human resources; regulating professionals, and decentralization of management of work and education in the states of Brazil in a transparent manner holistically.[26] The project specifically dedicates itself to fulfill the needs of the specialist in the community to Support Training of Specialist Doctors in Strategic Areas and opening of new residency programs based on the need of the region in both public and private sector.[27]
- *Korea sees its medical workforce* crisis to address the growing demand of old age people, medical tourism (especially from Asian countries) as an economic and development challenge and hence addresses the shortage holistically. The *Korea Institute for Health and Social Affairs* estimated the country to face a shortage of 110,000 nurses by 2020 with numbers hitting 158,000 by 2030; the need for additional 1,800 doctors by 2020, rising to 7,600 by 2030. The present number of medical force per 1,000 people stands at 2.3 for doctors. This is lower than the average of 3.3 for 34 member states in the Organization for Economic Cooperation and Development.[28]

[22] *Pathman DE, Konrad TR, Ricketts TC.), (3rd The comparative retention of National Health Service Corps and other rural physicians. Results of a 9-year follow-up study. JAMA. 1992;268:1552–8.*

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[28] https://en.yna.co.kr/view/AEN20170503003400320

Primary Research Findings

There is a number of driving factors that act in favor of the retention of service providers in rural areas. Doctors' decisions to remain in rural and remote areas over periods of time were driven by varied combinations of factors including effective management, good compensation, professional work environment, personal interests and ambitions, strong relationships with colleagues.

Demographic Characteristics

A total of 35 specialists across three categories participated in the study, including Gynaecologist & Obstetricians (n=10, 28.5%), Paediatricians (n=17, 48.5%) and **Anaesthetists** (n=8, 22.8%) **(Table 3)**

Table 5.*Type of Specialist N=35*

Specialist	*N*	*%age*
Gynaecologist & Obstetricians	*10*	*28.5*
Pediatrician	*17*	*48.5*
Anesthetists	*8*	*22.8*
Total	*35*	*100*

Of the specialists, a higher proportion 21 (60%) are currently serving at the public health care facilities; as against 14 (40%), who is currently working in private health care facilities.

The study findings recorded that the proportion of specialists practicing in the secondary health care facilities was the highest (57%), followed by tertiary health care facilities (37%), and only 5.7% practicing in primary health care facilities. (**Table 6)**

Table 6: Background Characteristics of Specialists (N= 35)

Types of Hospitals	**Specialists**	
	N	**%**
Public hospitals	21	**60**
Private Hospitals	14	**40**
Type of organization	**Specialists**	
Primary	2	**5.7**
Secondary	20	**57**
Tertiary	13	**37**

Of the 35 respondents, 18 (51%) were early career specialist with less than 10 years of experience and 17 (48.5%) were experienced specialist with more than 10 years of experience.

Overall the sample included a higher proportion of *Gynaecologist & Obstetricians, Pediatrician and Anaesthetists* (both early and experienced) practicing in the public health care facilities.

Motivational Factors

The following factors motivate doctors to join the public sector:

- **Need and demand specialist care:** 66% of doctors stated that the need and demand for specialized care motivated them to work in rural areas. During the IDIs they further elaborated that this demand for specialized care made them feel valuable in the eyes of the society and wanted to contribute to the society, the very reason for which they took to study medicine.

- **Greater work exposure:** Around 83% believed that there were a greater workload and greater exposure to different types of patients in public hospitals and therefore felt that they could utilize their professional skills better in public hospitals, especially in rural areas. A sense of professional fulfillment by way of meeting the challenges of working in remote areas and the interest in outreach activities & public health programs inspired many doctors to continue their good work.
- **Job security**: Most of the participants (83%) strongly agreed that job security is one factor that strongly influences them to work in public hospitals. The systematic workflow helps to maintain a balance between work and family life.

Table 7: Motivational Factors with the highest importance (N=35)

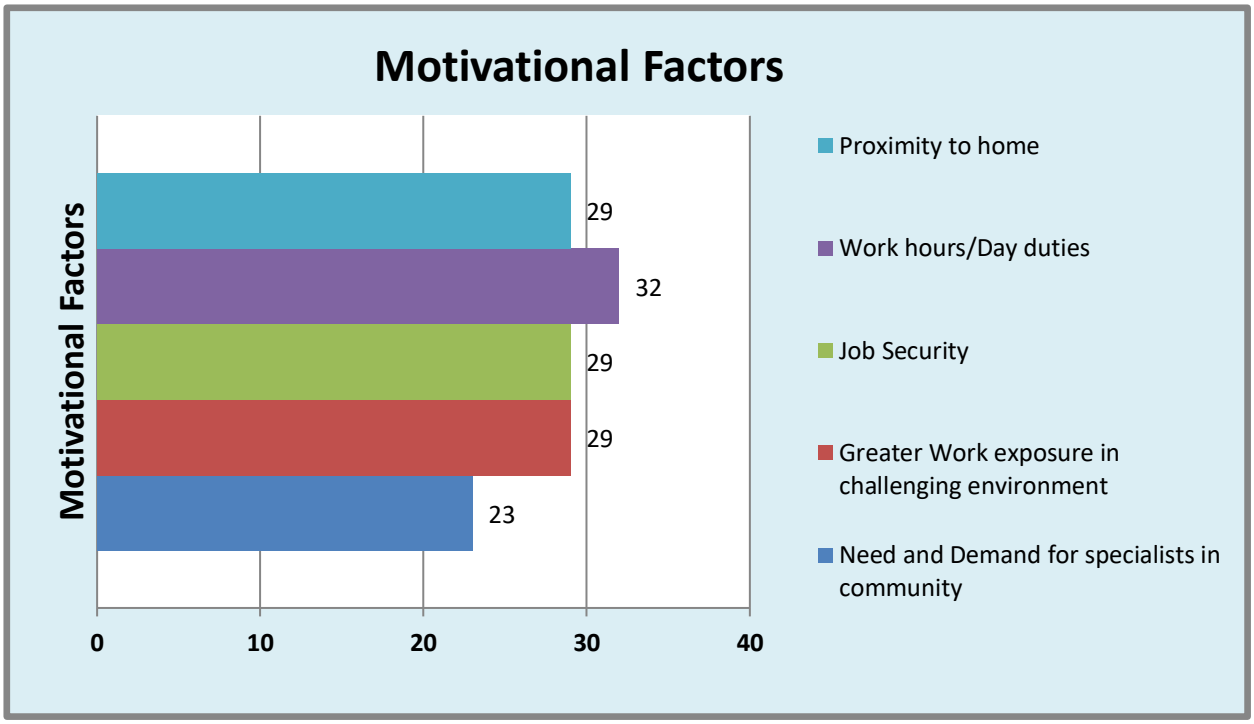
Motivational factors	Specialists	%
Need & Demand for a specialist in community	23	66
Greater work exposure in a challenging environment	29	83
Job security	29	83
Work Hours/ Day duties	91	3
Proximity to home	29	83

The remaining private sector over the public. Doctors opined that while the life in the private sector is tough and you are judged every moment by patients, your colleagues, regulators; but still it is better because of following points:

- The work environment is favorable for patient care. Doctor' time is dedicated clinical practice with independent decision making which helped them to cater to curative needs of patients

- All equipment and infrastructure are made available in working condition. You know up front from the promoters, what can be done or invested in and what cannot be, so life is easier concentrating only on clinical care
- No cumbersome bureaucratic procedures but strict and honest management. The management spells out its expectations very clearly, you take it or leave it, no time wasted in appeasements. It's thoroughly professional.

Figure 5: Motivational Factors

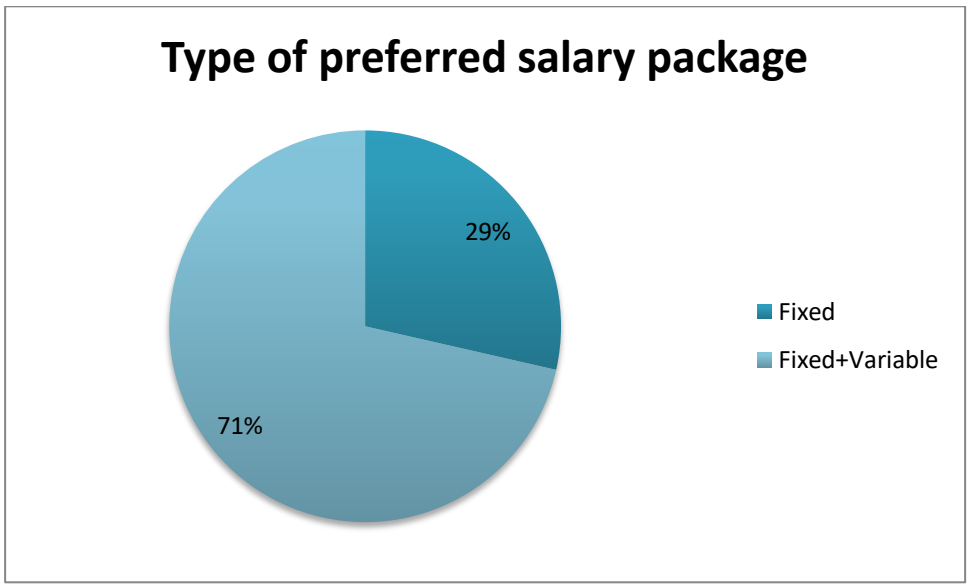


Barriers to practice in the public sector, especially in rural areas

The specialist posted in rural areas shared the experience of having confronted with a range of adverse circumstances. These factors have affected their decision to serve in rural areas. Some of the barriers reported in the study are unique to rural areas.

Around 71% of the participants agreed for the creation of a salary package with fixed and variable components to incentivize performance **(Figure 6)**.

Figure 6: ***Type of Salary Package***

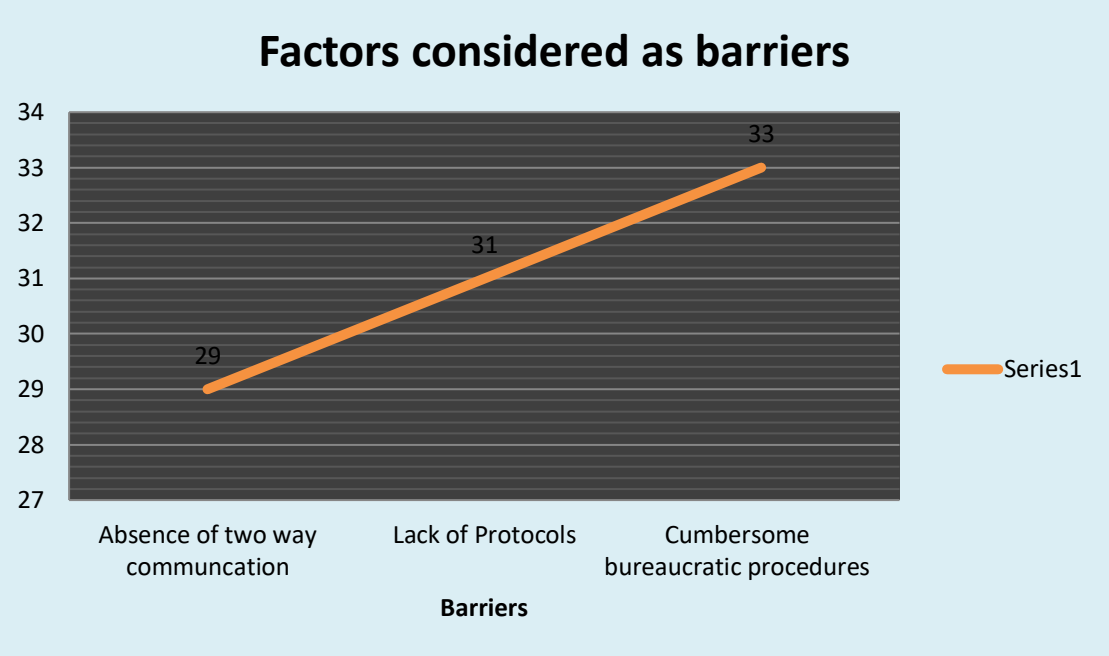


Ineffective Governance and Management

Similar to the literature review, Governance has emerged as fulcrum of all illness in the system and hence has been reiterated in the survey as well.

Ineffective governance and management act as a major barrier for a specialist to practice in public sector as 94% participants opined that cumbersome bureaucratic procedures for approval have created a general negative cultural milieu and an environment of mistrust in the public healthcare system. Also, 89% of the participants reported that lack of systems, protocols for working amongst a different group of staff and escalation matrices has reduced the ability of the system to bring forth accountability amongst the staff. The absence of two-way communication between supervisors and senior management is considered as a major barrier to effective governance by 83%.

Figure 7 Factors considered as barriers

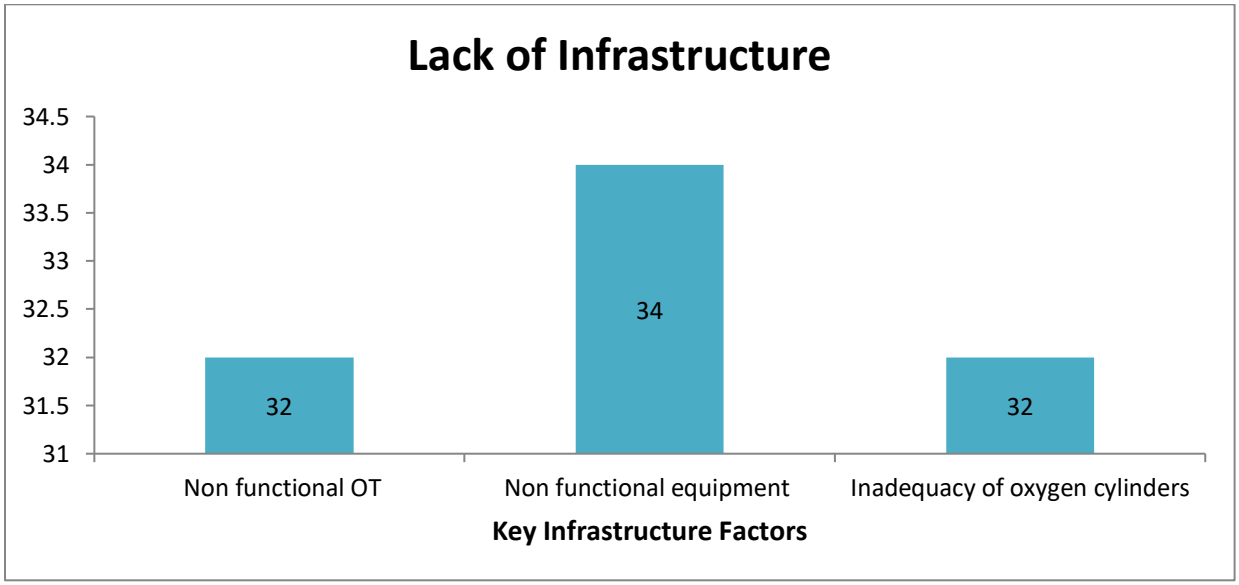


Non-professional Work Environment

Most participants reported that a non-conducive work environment in public health care facilities, whether it is medical college or hospital or rural area posting, contributed to dissatisfaction of specialist. Poor working conditions have kept doctors away from the public sector.

- 91%, 97%, and 91% respectively were demotivators because of non-functional OT, non-functional equipment and an inadequate number of oxygen cylinders respectively. Poor infrastructure with lack of basic amenities like poor drug supply, lack of modern equipment's and limited lab facilities restricts them to cater to the diagnostic and curative needs of the patients and is a bigger concern.

Figure 8 Lack of Infrastructure



Recommendations to motivate & retain doctors

The findings from both literature review (both at national and international level) and quantitative survey brought out similar concerns and recommendations. The recommendations that emerged are also in line with what was defined in Maslow's theory of Organizational Behaviour.
Meaning basic hygiene needs (house, money, education, family comfort, etc.) is essential for all and cannot be compromised for anyone; but it's the self- esteem and social recognition, which motivates people to work on.

Compensation Structure

Higher pay scale, regularity on payment and job security was a widely and strongly expressed need among the specialist.

It was also evident from the secondary research that providing incentives regularly on the basis of performance as well as giving hardship allowance to specialists working in difficult areas significantly resulted in motivating as well as retention of a specialist in rural areas. Various such innovative strategies have been implemented by many Indian states like Bihar, Assam, Orissa, Madhya Pradesh, Sikkim, Haryana along with many other countries around the globe like USA, UK, Brazil, China, Thailand, and these strategies have been proven to yield desired results.

Greater compensation for doctors working in remote areas

- Increase allowances (house, overtime and leave allowance)
- The study findings reported that the financial incentives must be supplemented by adequate living conditions like suitable accommodation, transportation and communication facilities, and good educational facilities for children and recreational activities. Also, prestige and respect

would play a critical role to boost their motivational level and can act as major facilitators for practicing in rural areas. Both Chhattisgarh and Himachal Pradesh have provided accommodation to specialist living in difficult areas and were proven to be an important factor in the retention of specialists, which often neglected while formulating strategies.

Governance & Management Structure

The secondary research suggests that the framework of Duran and colleagues[29] which identifies governance in the health sector at the three levels of macro (national, policy-making), meso (institutional), and micro (operational at provider level) to examine challenges and suggest mitigation measures could complement specific management techniques for effective service delivery practices.

The doctors expressed transparency in governance and management is the key to draw their loyalty and belongingness to the system. Therefore defining protocols would enhance accountability and reduced stress on roles and responsibilities of individual staff and would lead to effective hospital management.

Social Environment

- The doctors expressed that better living and housing arrangements for family, good quality primary education for their children are critical for them and their families to allow them to choose rural posting.
- Availability of security guard to deal with emergencies at night in a hospital is important.
- According to doctors, acknowledgment and recognition is a motivator to them like an artist to continue to repeat and continue their great techno-artistic work.

Work Environment

From this study, it's evident that the barriers are the ones that lie at the base of a pyramid and strongly influence the decision of a specialist joining the public health system; factors such as governance and management, challenging work environment, social environment serve as motivators to continue in rural public health care facilities. Various innovative strategies have been implemented by many Indian states like Bihar, Assam, Orissa, Madhya Pradesh, Sikkim, Haryana along with many other countries around the globe like USA, UK, Brazil, China, Thailand, and these strategies have been proven to yield desired results.

There was a unanimous demand for improved hospital infrastructure (such as labor room, ensuring availability of surgical instruments and essential equipment, regular supply of essential drugs and ambulance service to handle emergencies. Improvement in quality and regularity of medical supplies and provision of better workplace infrastructure) creates conducive environment for doctors as scientists to

[29] Duran A, Dubois HFW, Saltman RB. The evolving roles of hospitals and recent concepts of public sector governance. In: Saltman RB, Duran A, Dubois HW, eds. Governing Public Hospitals: Recent Strategies and the Movement Toward Institutional Autonomy. Brussels: European Observatory on Systems and Policies; 2011:15-34.

think and innovate frugal ways to make patient care experience better, enhance professional satisfaction and glamorizes the medical professionals, who are artists with special skill sets to support healing of human body and mind and therefore stimulates them to seek greater challenges.

Conclusion

- Long-term political commitment and sustained effort at all levels are prerequisites for the creation of an adequate number of regular posts, to meet the requirement in health facilities.
- A deep understanding of the cultural, social, political and economic context in which the strategy is being developed is critical because the doctor operates out of their social dignity rather than positional dignity and power.
- Involvement of key stakeholders especially the doctors themselves in developing the strategy, formulating policy and implementing initiatives[12]
- Integration of efforts between government sectors, donors, non-governmental organizations and the private sector to ensure the initiatives are sustainable[12]
- Packages of coordinated and linked financial and non-financial incentives that adequately respond to the needs of health workers are sustainable
- Strengthened supervision and management capacities[12]
- Performance management systems that link health worker performance to supportive supervision and appraisal are encouraging
- Continued research on what motivates health workers in order to adapt and adjust the incentives to the changing needs and desires of the workforce.[12]

WHO Recommendations

WHO recommendations to improve the recruitment and retention of health workers in remote and rural areas

In 2010, the World Health Organization (WHO) addressed the long-standing problem of the acute shortages of health workers and then developed evidence-based recommendations for improved retention of health-care practitioners in remote and rural areas in 4 policy domains: (1) education (2) regulatory (3) financial incentives (4) professional and personal support.[30]

[30]http://www.atmph.org/article.asp?issn=17556783;year=2017;volume=10;issue=1;spage=16;epage=21;aulast=Behera

Table 8: WHO Recommendations

Category of intervention	**Example**
Education	• Target admission policies to enroll students with a rural background in education programs for health disciplines • Locate health professionals schools and family residency programs outside major cities • During studies, arrange clinical rotations in remote and rural areas • Revise curricula to reflect the main issues in rural health • Develop programs of continuous professional development for rural health workers
Regulatory	• Introduce enhanced scopes of practice in remote and rural areas • Introduce different types of practice in remote and rural areas • Implement compulsory service in remote and rural areas • Subsidized education for return of service in remote and rural areas
Financial incentives for rural health workers in remote and rural areas	• Provide appropriate financial incentives
Professional and personal support for rural health workers in remote and rural areas	• Improving living conditions • Develop a safe and supportive working environment • Provide outreach support • Provide career development programs • Support the development of professional networks • Adopt public recognition measures

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ANNEXURE 1: Questionnaire for Data Collection - IDIs and Online

Date:

Discussion objectives and introduction by moderator/ researcher

Thank you for participating in this discussion. My name is [Name] and I am a [role/title] at SahaManthran, working for IHAT and Govt of UP, a firm that specializes in addressing issues for the healthcare industry. I will moderate our discussion. As you are aware, the discussion will be blinded so the sponsor of this project will not know your full name or affiliation and you will not know who the sponsor is.

I would also like to remind you that the materials used in our discussion today are confidential and that you have agreed not to disseminate or discuss the information given to you today. We also remind you that throughout our discussion, we do not expect you to disclose any information that you feel is confidential.

I would like to begin by reviewing our objectives for this discussion. Today we are going to be discussing the motivational factors to work for National Health Mission.

Profile of Specialist

Motivational factors

Understand the barriers

Prepared for: Specialists (a sign of specialist) **Prepared by** (a sign of researcher)

Pediatrician IHAT and SahaManthran

Gynecologist

Anesthetist

SECTION 1 – Participant Details (15min)

1. Name of interviewer:
2. Date of interview:
3. Respondent's Name:
4. Respondent's Contact Details:
5. City/Province:

6. Facility/ Organization Name:
7. Facility/ Organization Type (primary/secondary/tertiary),
8. Number of beds
9. Public/ Private Institution:
10. What is your specialty?
11. What is your total year of experience?
12. What was your place of education?
13. How many hospitals you have worked so far? (Look for public/private.)
14. What is your current position and how long have you been in this role?

SECTION 2 – Deep Dive on Motivational factors (15 mins)

4. What are the parameters/ aspects that you consider important (motivational factors) while seeking a job and how specifically they factor into the decision? ***Look for spontaneous response***. *ASK OPEN-ENDED QUESTION AND THEN PROMPT FOR the factors mentioned below*

a. Of all the things that you have mentioned important that factor into the decision, how will you rank these factors in a decreasing order (1 being the most important and 2 being the least important.)
b. Out of all those expectations which expectations got fulfilled and which did not? Tick the ones, which have met

- Need & Demand for a specialist in community
- Greater work exposure and challenging opportunities
- Preferred Salary Package
- Salary Regularity
- Work Hours/day duties
- Attitude of supervision
- Job security
- Proximity to home

5. Out of all those expectations which expectations got fulfilled and which did not? Tick the ones which have met

- Need & Demand for a specialist in community
- Greater work exposure n challenging opportunities
- Preferred Salary Package
- Salary Regularity
- Stable timings, day duties
- Work-life balance
- Work environment
- Attitude of supervision
- Job security
- Proximity to home
- Availability of facilities (equipment's Functional and availability of oxygen cylinder)
- Any other

SECTION 3 – Deep Dive to understand the Barriers (From doctors working in private sector) (20 mins)

6. Why you have never thought of working in a public sector? What are the barriers to join a public sector? Could you please give us a list of factors that act as barriers? Moderator to List down all the factors mentioned and probe for reasons why they feel like that?

- Lack of Infrastructure
- Non functional OT
- Non functional equipment
- Inadequate number of oxygen cylinders
- Absence of two way communication channels with supervisor and senior management
- Lack of protocols lead to less accountability amongst different groups of staff
- Cumbersome bureaucratic procedures for approval which creates negative cultural milieu

7. What are the solutions of barriers above/ motivational factors that will enable people to ensure continuity in public sector? (tick)

- Strict and honest management
- Availability of requisite infrastructure and equipment to undertake requisite procedures
- HR policy overhauling to achieve accountability among all the staff
- Define protocols for various cases to enhance accountability and reduce stress on roles and responsibilities of individual staff

THANK YOU