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Career Preferences of Medical and Nursing students in Uttar Pradesh: A Qualitative Analysis

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Executive Summary

The health sector, both in India as a whole and in Uttar Pradesh (UP), faces multiple challenges in the geographic distribution of human resources for health. Though the majority of the population lives in rural areas, doctors in both the public and private sectors are concentrated in urban areas. While the public sector has made considerable efforts to place doctors (and other health workers) in rural areas, issues such as acute vacancies, absenteeism and dual practice have compromised this effort. The Union Government has proposed to tackle this shortage of rural health workers in India by making post graduate medical education contingent on completion of one year rural service after the undergraduate course (Times of India, 2006). Given that compulsory rural service has a weak record of success historically, and is not currently very popular among medical students in India, the government should adopt alternate strategies, formulating a package of incentives, to attract health workers to voluntarily opt for rural service.

This study aims to understand how graduating medical and nursing students in UP perceive various job and location options available to them and determine the specific type of incentives that they would consider most successful in attracting them towards rural service.

The medical and nursing schools were purposively selected representing a diversity of both academic reputation and geographic locations. Similarly, within each school, medical and nursing students were purposively selected based on the location of their hometown. A semi-structured questionnaire was used for in-depth interviews and a similar set of discussion topics for focused group discussions.

On graduation from their undergraduate degree, 90% of the participating students intended to pursue a post-graduate course of study. For most students, a respectable salary, the opportunity to utilize their skills, good living conditions and a safe working environment figured prominently as essential criteria for a first job. For medical students, the inclination for an urban job was more dominant than a rural job while the choice between public and private sector was ambiguous. On the other hand, nurses favored the public over private sector and had a strong predilection for urban as compared to rural postings. The most appealing non-financial incentive for both undergraduate and post-graduate medical students was a 50% reservation in PG courses for students who had completed a stint in a rural area following their MBBS degree.

Thus, under the current incentive environment, with the majority of undergraduate medical students attracted to postgraduate study, the likelihood of increasing the supply of MBBS doctors for government jobs in UP is dismal. In contrast, increasing the number of nurses in the public sector is very feasible, given their preference for government jobs. Moreover, to attract students for public sector jobs, an incentive *package* approach with innovative linkages tuned to the career-related preferences of students would be more effective than an exclusive focus on bettering any key job attribute to satisfactory levels.

1. Introduction

Background

The health sector, both in India as a whole and in the state of Uttar Pradesh (UP), faces multiple challenges in the geographic distribution of human resources for health. Though the majority of the population lives in rural areas, doctors in both the public and private sectors are concentrated in urban areas. While the public sector has made considerable efforts to place doctors (and a variety of other health workers) in rural areas, issues such as absenteeism and dual practice have compromised this effort. The distribution of private providers is also highly skewed; one study estimates that over 80 per cent of the qualified private provider market is concentrated in urban areas (WHO 2007). Female doctors and other categories of health workers are likely to be similarly mal-distributed. The lack of qualified medical professionals in rural areas has resulted in the majority of rural households receiving care from private providers, many of whom are less than fully qualified (WHO 2007). This geographic imbalance in the health workforce hampers the ability of rural populations to access quality health services.

The concentration of health workers in urban areas is not a problem that is unique to India. Indeed, both industrialized and developing countries around the world face disparities in the distribution of health personnel (Dussault and Franceschini 2006). There are many reasons why health workers typically choose not to work in rural areas. Salary emerges as an important component of a job and strongly affects the willingness to work in rural areas (Chomitz 1997; Serneels, Lindelow et al. 2007). However factors other than salary also play an important role in the preference of urban positions. For example access to training, health care and education for children, promotion opportunities, the availability of electricity, water and housing are all reasons that urban jobs are usually favored (Dussault and Franceschini 2006; Lindelow and Serneels 2006; Serneels, Lindelow et al. 2007). In Pakistan, the absence of equipment and supplies was a major deterrent for accepting a rural post (Zaidi 1986). A study on rural health worker motivation in Vietnam highlighted the importance of appreciation and support from managers and colleagues as well as from the community (Dieleman, Cuong et al. 2003).

Individual characteristics can also affect the decision to serve in rural areas. It is generally accepted that a person from a rural background is more likely to pursue a career in rural areas (Laven and Wilkinson 2003; Matsumoto, Okayama et al. 2005; Dussault and Franceschini 2006; Lehmann, Dieleman et al. 2008). Schooling in rural areas also appears to have a similar effect although rural medical training alone is unlikely to have a major impact on increasing the rural workforce (Eley and Baker 2006). In addition, women are less likely to accept a post in a rural area than are men, though the presence of family members in rural areas may mitigate this effect (Doescher, Ellsbury et al. 2000; Dussault and Franceschini 2006).

Several financial and non-financial incentives have been proposed to deal with the shortage of rural health workers. Financial incentives alone are unlikely to be successful in attracting health workers to rural areas (Anderson and Rosenberg 1990; Sempowski

2004). Thus incentive packages tend to be a combination of financial and other incentives. These range from improved working and living conditions to increased training opportunities (Lehmann, Dieleman et al. 2008). In Indonesia, for example, doctors working in rural areas gain a salary bonus as well as preferential entry into a prestigious civil service post and subsidized specialist training (Chomitz 1997). In Thailand, financial incentives for hardship posts were combined with investment in rural health infrastructure in order to improve living conditions (Wibulpolprasert and Pengpaibon 2003). Both countries also had forms of compulsory rural service though, in general, these were not well-received. Indeed, Sempowski (2004) finds that physicians who voluntarily choose to work in rural areas are more likely to stay there for longer periods of time. The multi-dimensional nature of the problem suggests that incentive packages that address several aspects of employment choice are likely to be most successful in recruiting health workers to rural areas.

Uttar Pradesh Health System

The state of Uttar Pradesh (UP) is India's most populous state and has some of the poorest health and economic indicators. In India and UP, health workers tend to be highly concentrated in urban areas of the country with doctor and nurse densities in urban areas 3-4 times higher than that of rural areas (see HRH Technical Report#1 of these series). Though UP has a much lower overall density of nurses than the national average, the distribution of nurses between urban and rural areas also corresponds well with what is seen nationally. Thus, the distribution of health workers in UP is generally representative of the country as a whole.

The public sector infrastructure in rural UP, as in that of India, is a three-tiered system. A sub-center is the most peripheral unit and is staffed by an Auxiliary Nurse Midwife (ANM) and a male multi-purpose worker (MPW). The first point of contact between a patient and a doctor is the Primary Health Center (PHC), a basic clinic which is supposed to serve a population of 30,000, but may, in reality, serve a much larger population. A community health center (CHC) was planned as a referral unit for four PHCs and is meant to serve a population of approximately 1,00,000. CHCs are 30-bedded hospitals staffed by five different types of specialist doctors as well as two general physicians. Though not officially part of the rural health infrastructure, district hospitals, usually located at the district headquarters, also serve the rural population. A general doctor entering the public sector is posted as a medical officer to a rural PHC while a specialist doctor's entry point into the system is the CHC. Similarly, an entry-level position for a nurse in the public health sector is as a staff nurse in a rural PHC.

Vacancies in the public health sector are acute. Figures from 2001 suggest that 40% of the medical officer posts in PHCs and 50% of the specialist posts in CHCs are lying vacant (Government of India). The Union Government has proposed to tackle this shortage of rural health workers in India by introducing a compulsory additional year of education for undergraduate medical students that has to be spent working in a rural setting. The license to practice medicine or pursue further education would be contingent on completion of this rural service (Times of India, 2006). Given that compulsory rural

service has a weak record of success historically, and also given that it is not currently very popular among medical students in India, the government would likely be more successful in pursuing a policy that encourages health workers to voluntarily opt for rural service. A first step in formulating such a package of incentives is to understand how health workers perceive the various job and location options which are available to them. It is especially crucial to clarify the reasoning behind their preference for working in urban areas and to determine the specific type of incentives that health personnel would consider most successful in attracting them towards rural service.

Study Objectives

This study aims to understand the determinants of employment choice among graduating medical and nursing students in the Indian state of Uttar Pradesh (UP). It has three main objectives:

- (1) To examine job attributes that graduating medical and nursing students consider important when seeking out a first job.
- (2) To explore medical and nursing students' perspectives on jobs in the public and private sector, and on the urban and rural working environments.
- (3) To understand the influence of monetary and non-monetary incentives on medical and nursing students' decision on whether to serve in a rural, public sector job upon graduation.

2. Sample and Methods

This study uses a qualitative approach to understand the career preferences of final-year undergraduate (UG) and post-graduate (PG) medical and undergraduate nursing students. Both focus-group discussions (FGD) and in-depth interviews were carried out with these students.

Selection of medical and nursing schools

The medical and nursing schools were purposively chosen to fulfill two criteria: they should represent a diversity of both academic reputation and geographic locations. Lucknow is the capital of UP and the public medical college there is one of India's and UP's elite medical colleges. Allahabad is a large provincial town and, while the medical college selected there is not a top-tier institution, it is highly regarded. Finally, Gorakhpur is a provincial town, located in the economically poorer, eastern part of UP, in proximity to the rural areas of the state. The medical college there has a lesser academic reputation compared to the other medical colleges in the study. Medical students gain admission to a particular institution based on their rank in a common entrance examination. The study, therefore, draws on perceptions of medical students from those medical colleges which

are high (Lucknow), medium (Allahabad) and low (Gorakhpur) on the admission preferences of medical students. Most of the medical colleges selected were public institutions, although in Lucknow, a private medical college was also included in the study.

Nursing schools were selected from the same city/town where the sampled medical schools were located. This ensured that nursing schools from a range of geographic locations were included in the study. Both private and public nursing institutions were visited: discussions were held with first-year students at public nursing schools and final-year students at private institutions. A summary of the characteristics of the schools selected is shown in Table 1 below:

Table 1: List of Sampled Medical and Nursing Schools.

Location	Type of Institute	Public/ Private	Name of Institute
Lucknow	Medical	Public	King George’s Medical College (KGMC)
Lucknow	Medical	Private	Era Medical College
Lucknow	Nursing	Public	School of Nursing, GM & Associated Schools
Lucknow	Nursing	Private	Vivekanand School of Nursing
Allahabad	Medical	Public	Motilal Nehru Medical College
Allahabad	Nursing	Public	School of Nursing, SRN Hospital
Allahabad	Nursing	Private	Nursing School, Jeevan Jyoti Pvt. Ltd.
Gorakhpur	Medical	Public	BRD Medical College
Gorakhpur	Nursing	Public	District Hospital Nursing School
Gorakhpur	Nursing	Private	Gangotri Devi School of Nursing

Note: KGMC, Lucknow is now known as Chhatrapati Shahuji Maharaj Medical University (CSMMU) but for convenience this report continues to refer to it by its more commonly known name.

Selection of medical and nursing students

Within each school, medical students were purposively selected based on the location of their hometown and their rank in a common entrance exam. This, once again, ensured that students participating in the study were from diverse backgrounds. Nursing students were selected on the basis of an institutional merit list. The total number, and the demographic characteristics, of the students who participated in the FGDs and interviews are shown in Table 2.

This study was limited to medical undergraduates who were in their final year of study, and to post-graduate students. As these students are closest to the job-market they are most likely to have given serious thought to the future career options available to them. Final-year nursing students were also used in the study; however they were all from private colleges. In public nursing schools in Uttar Pradesh there are currently no final-

year nursing students and hence first-year nursing students were asked to participate from these institutions.

The undergraduate medical students were pursuing a five and a half year MBBS (Bachelor of Medicine, Bachelor of Surgery) degree while the post-graduate students had completed their MBBS and were studying for a post-graduate degree in a medical specialty. The nursing students were training for a basic nursing qualification called a GNM (General Nursing and Midwifery), a 3-year diploma program entered into after high school

Table 2: Background Characteristics of Sampled Medical and Nursing Students

Sample Characteristics	Undergraduate (UG)		Postgraduate (PG)		Nurses		
	FGD	Interview	FGD	Interview	Public		Private
					Private	Private	
Mean age (years)	24	24	28	30	24	24	24
Female (%)	51	51	33	39	96	92	89
Current Family Residence (%)							
Village	13	22	8	11	35	35	17
Small town	30	16	17	44	27	19	22
City	57	62	75	44	35	46	61
Residence during school years (%)							
Village	8	19	17	17	12	12	17
Small town	32	8	21	33	46	27	22
City	57	73	63	50	42	61	61
Sample size (students)	63	37	24	18	26	26	18
Total	100		44		70		

Both FGDs and in-depth interviews were held in order to get a range of opinions and also to cross-check views given by students while amongst their peers with those professed when on their own. A semi-structured questionnaire was used for in-depth interviews and a similar set of discussion topics was used for the FGDs. Students were asked about their plans upon graduation and their perspectives on working in the public and private sector and in urban and rural areas. Both English and Hindi were used to communicate during the FGDs and in-depth interviews. While most medical students were comfortable with English, nursing students preferred to converse in Hindi.

To encourage students to express their views freely during the FGDs, they were segregated by sex and by the type of degree that they were pursuing. Two exceptions

were made to this; FGDs for post-graduate and nursing students were in mixed groups. In these cases segregation was not feasible because there were very few post-graduate students which made it necessary to include both male and female students in the same FGD. Similarly, since most nursing students were female, they were also not segregated by gender. In a further effort to promote frank discussion, the students remained anonymous and no faculty was present in the room during the FGDs or interviews. The focus group discussions were taped, translated into English when necessary, and then transcribed. The quotes presented in this study are only from the focus-group discussions. Where data is presented numerically, these are based upon responses from individuals during in-depth interviews.

In general, few differences in opinions were observed between males and females, or between students in different schools (see Appendix, Table 2). Therefore, unless noted, the results are not separated out by gender, by location or by type of medical school or nursing school. Moreover, while there was some diversity in the opinions presented, the story presented in this paper is that of a typical medical or nursing student.

Limitations of the Study

The goal of this study was to focus on students who were close to entering the job-market in order to get a sense of their perceptions of the career choices that were available to them. However, as will be discussed later, most final-year undergraduates, and even some post-graduate students, were focused on further education and therefore had not given serious thought to their first job. Thus, though they were able to discuss advantages and disadvantages of various job scenarios, these were most likely based on general perceptions rather than a thorough understanding of the features of each career choice.

This may have also been an issue with nursing students in public schools. In UP there are currently no final-year students and therefore FGDs were held with first-year nursing students. However, as these students had just entered the program, like medical undergraduates, they were less likely to have fully explored the options that were available to them upon graduation.

At certain times, discussions and interviews with nurses were limited because of poor understanding or reluctance to talk. While most medical students were quite outspoken, many nursing students had to be encouraged to speak and had to be guided more thoroughly through the questions. For example instead of listing attributes of jobs on their own, sometimes various job attributes were offered to them and then students were asked about their relative importance. However, the most important job attributes and choices were always quite consistent, lending confidence in the validity of the data.

It should also be noted that despite an attempt to get a variety of students, there were few medical students from rural backgrounds in this study. This is likely due to the fact that, in UP in general, few medical students come from rural backgrounds. Therefore, rural students may actually be over-represented in the study. Nonetheless, the small number of

rural students makes it difficult to make definitive conclusions about how a rural upbringing influences the career decisions of a medical student.

A final point is that among the career choices offered, medical education was not presented as an option. A few students brought it up themselves, and seemed somewhat attracted by this career choice. However, the focus of this study was the immediate career plans of medical students. As such, medical education was not particularly relevant as it is only available to post-graduate students after they have completed a few years of work experience.

3. Findings

The Importance of Specialization among Medical Students

On graduation from their MBBS degree, ninety percent of the undergraduates who participated in this study intended to pursue a post-graduate course of study and use their internship year (i.e. the final year of their MBBS) to prepare for the post-graduate entrance examination. Of the remaining 10 percent, a minority were keen on taking up a job on completion of the MBBS, while a majority intended to diversify their career to non-medical fields like Hospital Administration, Business Management (MBA), Mass Communication or Civil Services. Therefore, upon graduation from their course of study, almost all undergraduate medical students wanted further specialization. This was true of both male and female students although the types of specialties that they were keen on pursuing varied somewhat by gender (See box). Students considered a post-graduate degree necessary for a successful and rewarding career in medicine.

“If we do not do our PG we will have to live in small places (town/villages) while if we do our PG then we will have better opportunities”

Male UG student, Private Medical Institute, Lucknow

“I think MBBS doctor has no status in society...the patients do not go to MBBS doctors. They will go to a MD cardiology if they are having a heart problem, they will prefer to go to a specialist for every disease. Even if the MBBS is sitting in that area and has much more experience than a freshly qualified MD, still nobody will go to him”

Female PG Student, Public Medical Institute, Lucknow

Students also felt that an undergraduate degree (MBBS) did not adequately qualify them to practice medicine. The MBBS degree includes a one-year period of internship during which students are expected to gain much of their practical clinical experience. However, as many students spend this year studying for the post-graduate entrance examination, they feel unprepared to practice medicine with only an MBBS degree.

“The fact remains that we ourselves think we are not capable to treat after plain MBBS”

Male UG Student, Private Medical Institute, Lucknow

Gaining admission to a post-graduate course is a very competitive process. Students are prepared to spend 2-3 years preparing for the entrance examination to a post-graduate course, and only if they are still unsuccessful, will they consider entering the job market. In spite of the low numbers of postgraduate seats available, students generally expressed confidence in eventually entering into a post-graduate course, though the likelihood of success on the first attempt at the post-graduate entrance examination is slim.

“I will prepare for PG for a maximum of 2 years or may be less -unless the family supports us.”

Male UG student, Public Medical Institute, Allahabad

“80-90% of us will qualify for PG within next 2-3 years. Those who could not qualify go in for a house job and get Rs. 20,000-25,000 or can even take Diploma of the National Board (DNB) route.”

Male UG student, Public Medical Institute, Lucknow

“90% of girls from KGMC get into PG, in fact within 2-3 years more than 50-60% can get into it. The remaining go for Diplomas”

Female UG student, Public Medical Institute, Lucknow

The desire for specialization among undergraduates was strong enough for some to forsake careers abroad.

“Only 4-5 out of total batch of 180 students among us have plans of going abroad - only gold medalists go there. Going there depends on how strong they are clinically and with family background.”

Male UG Student, Public Medical Institute, Lucknow

“Post Graduation is a must. I had an opportunity to settle in Germany after my MBBS from KGMC. But I left this opportunity just to do my PG. Everything else comes later, doing PG is a must.”

Male PG Student, Public Medical Institute, Gorakhpur

With this emphasis on pursuing a post-graduate degree, few final-year MBBS students have given serious thought to entering into the job market. On the other hand, post-graduate students are much keener to get a job once they obtain their degree, although there are also a few who would like to pursue super-specialty courses.

“In cardiology field we do not have super specialization here in this institution so I will opt for a super specialization course in some other institute and after completing it I will seek job in the private sector”

Male PG student, Public Medical Institute, Lucknow

“After this, I would take experience for 1-2 years in private sector and then start private practice”

Female PG student, Public Medical Institute, Allahabad

Thus, medical students, especially undergraduates, placed great emphasis on specialization for several reasons including better career opportunities, the perception that MBBS doctors have less status in society and the belief that an MBBS degree does not sufficiently qualify them to practice medicine. This drives most undergraduates to pursue a PG degree despite the fact that the number of PG seats available in a given year is a third of the number of graduating MBBS students (Government of India). Once they have obtained their PG degree, students are much more likely to enter the job-market though a few would also like to continue on to super-specialization.

What types of specialties do Medical Students prefer?

The overwhelming desire to pursue a post-graduate degree raises the issue of the types of specialties that students tend to prefer. Despite the fact that students are keen on specialization, there are widespread vacancies in posts for specialist doctors in the public sector. Community Health Centres (CHCs) are now required to have five different types of specialist doctors, but many of these posts remain unfilled. Moreover, there are also acute shortages of medical faculty in UP, especially in certain fields such as anatomy, anesthesiology and obstetrics & gynecology. A possible explanation for this distribution of shortages across different medical fields could be that few medical students take up these specialties and, therefore, there is a shortfall in the number of specialists produced in these areas.

Students were asked to rank eleven post-graduate specialties available to them according to their personal preferences (see Appendix, Table 1). Clinical specialties were generally more popular as evidenced by this quote from a male medical student in Lucknow: “PG has to be clinical. We do not want to go non-clinical.”

Pediatrics and Surgery were two specialties that were rated highly by both undergraduate students as well as post-graduate students. Gender differences were clearly apparent as only women ranked obstetrics and gynecology high, while men leaned towards orthopedics. Interestingly, post-graduate students seemed to be strongly attracted to Radio-diagnosis as a specialty while this was lower down on the list for undergraduates. These results suggest that vacancies in certain fields, such as obstetrics and gynecology, are not a result of lack of popularity for these subjects amongst medical students. In this case, however, obstetrics and gynecology is favored mostly by women who are less likely to join public service under current conditions, as the first posting would be in a rural area (see Appendix, Table 3).

An important point to note is that across all types of students, Community Medicine (also known as Social and Preventative Medicine) is ranked near the bottom of the list. This very low preference for Community Medicine as a specialty indicates that training in the field of Public Health currently holds little attraction for medical students even though government policy statements continue to prioritize its importance.

Nursing Students' Plans upon graduation

Like undergraduate medical students, the majority of nursing students would like to pursue further education in terms of a BSc. in nursing. About 65 percent of the nursing students expressed an inclination towards a postgraduate course. However, since they felt that the chance of getting a seat in a BSc course was extremely low, nursing students were much more amenable to entering the job market on completion of the GNM diploma than were medical students graduating with an MBBS.

“Since the number of institutes is very less in UP many students will require moving out of the state. For the females getting permission from the family for migrating is difficult. So not many go for BSc. Nursing”

Male Nursing Student, Public Nursing Institute, Allahabad

“We all are interested in doing BSc. Nursing but the number of institutes offering such course is very less and the fees is [sic] very high.”

Female Nursing Student, Public Nursing Institute, Allahabad

“Out of 54 students only 2-3 will be able to qualify for BSc Nursing.”

Female Nursing Student, Public Nursing Institute, Allahabad

The low likelihood of gaining a seat in a BSc. Nursing course meant that nursing students were prepared to seek a job once they had graduated from their course of study.

“In case we get a right opportunity, we will immediately go in for a job.”

Female Nursing Student, Private Nursing Institute, Allahabad

Moreover, unlike medical students, seeking a job abroad was much more popular among nurses as they believed that there were good opportunities for them in countries such as America, Australia and Canada.

“I have thought for a job in a foreign country for 5-6 years. There is a system of working in a foreign country. Besides you get a good salary. There is good scope in Canada America etc. There is more punctuality and you get respect too. Growth opportunities are there”

Female Nursing Student, Private Nursing Institute, Gorakhpur

Overall, the primary focus of undergraduate medical students is gaining admission to a post-graduate course and therefore they are less concerned about the options available to them in the job-market. In contrast, both post-graduate students and nursing students are prepared to enter the job-market upon completion of their course of study. Furthermore, while medical students are not keen on seeking a job or further education abroad, nurses are much more attracted to the overseas market.

Job Preferences of Students: Ideal Attributes

Students were asked to describe their ideal job attributes in the context of a first job. Even though many of them, especially the undergraduates, did not intend to enter the job market in the near future, they had a clear sense of what job attributes were important to them.

For medical students, both undergraduates and post-graduates, as well as nursing students, salary was the most important component of a first job.

“First of all money is important”

Male UG student, Public medical institute, Lucknow

“Financial security is the basic thing. And there is no limit to its need. A person can manage to live even on Rs. 15000 a month or more than that- but at least a person should get an amount justifying his qualification.”

Male UG student, Public Medical Institute, Lucknow

“The first thing is salary. Until and unless salary is good, we cannot work”

Female Nursing Student, Private Nursing Institute, Allahabad

Medical students often compared their future earnings with those who had commensurate education in other fields.

“All my brothers and sisters are from engineering backgrounds. So they all are earning a lot-by just spending 4-4.5 years in an average engineering college they are all earning very good. In comparison we are studying for 10-12 years, and then we get only 20,000-22,000 rupees, initially when we get appointed in a government position we only get 20-25,000 rupees. The amount is so stagnant in this medical line; probably it is not so stagnant in any other non medical areas”

Male UG student, Public Medical Institute Lucknow

Along with a good salary, many students also highlighted the importance of being able to utilize the skills they have learned.

“I want to practice general surgery once I complete my under-graduation and post-graduation and any sector, whether government or private, provides me the opportunity to practice general surgery I will take up that”

Female UG student, Public Medical Institute, Lucknow

“The work should be good, facilities should be good and salary should be good. All the things necessary for working should be there (at the workplace). If there is a lack of facilities that are required for working, how are we going to work over there? It will gradually waste our talent and will be a loss to us. So in case there are no facilities we would not like to work over there.”

Female Nursing Student, Public Medical Institute, Allahabad

“If we are not able to utilize our skills, we are posted in a place where we have no patients but only salary that will also not be of any use to us”

Male UG student, Private Medical Institute, Lucknow

Good living conditions, which includes things like accommodation and education for children, was also cited as an important factor when selecting a job.

“I am from a village but I would like to bring up my children where there are maximum facilities. I want to give our children the best education”

Male UG student, Public Medical Institute, Allahabad

“Accommodation should be good....accommodation should be within the posting campus”

Female UG student, Public Medical Institute Allahabad

Related to good living conditions was the concept of personal security, mentioned as an important characteristic of a job by all types of students.

“Our protection is important. We cannot save each and every patient. Often the relatives of the patients in very critical emergency situations get very aggressive with us. They speak very badly to us, often use foul language”

Male UG student, Public Medical Institute, Allahabad

“Security is very important. The ‘pradhans’ and local leaders don’t let the doctor work or take his own decisions. Personal security is an issue that is important and needs attention not only in rural but also in urban areas”

Male PG student, Public Medical Institute Gorakhpur

A significant difference in the career perspectives of medical and nursing students relates to the importance attached to job security. During in-depth interviews, only 25 percent of medical students brought up job security as an important attribute of an ideal job. On the other hand, nursing students rated job security as the second most important characteristic of a good job, following salary. Therefore, for an average nursing student, job security was considered a crucial component of a good job and was associated with a stable life.

“The reason why we go to the government sector is because it secures our lives. Whether we work or not but our jobs are secured.”

Female Nursing Student, Private Nursing Institute, Lucknow

For most students, therefore, a respectable salary, the opportunity to utilize their skills, good living conditions and a safe working environment figured prominently as essential criteria for a first job. Nurses also placed great emphasis on job security. Factors such as workload and further training opportunities were least important when considering a job upon graduation.

Medical Students’ Preferences for the Private Sector

Medical students preferred to work in the private rather than in the public sector, as the former offered many of the job characteristics that students valued. For example, one of the primary reasons medical students were attracted to the private sector is that the

salaries offered there are generally much higher than those in the public sector. In fact, low salaries were the single most important factor that discouraged medical students from opting for the public sector both for undergraduates (62%) and for post-graduates (67%). Similarly, over 80 percent of the undergraduates and about 60 percent of post-graduates cited high salaries as the major draw of the private sector.

“Private people give performance-based incentives...also salary is good”

Female UG Student, Public Medical Institute, Allahabad

“Entrant level salary [in private job] is Rs. 60,000 which I believe is good”

Female PG student, Public Medical Institute, Allahabad

“The salary in government job is less. I think that a government job should follow the corporate culture- pay in accordance to your work. People are thus leaving government jobs because of low pay.”

Male UG student, Public Medical Institute, Allahabad

Students also felt that they had better opportunities to utilize their skills in a private hospital than in government clinics as the latter often lack basic equipment and facilities. Especially once the student undertakes a postgraduate course of study, the learning opportunities in a job is felt to exist largely if posted in a tertiary level healthcare facility that both brings complex patient-cases as well as the possibility of more complete utilization of the doctor’s specialist skills.

“...If we want to make diagnosis on basis of MRI, CT Scan etc.- such diagnostic facilities are not necessarily present in government setup. We will not be able to use our skills”

Male UG Student, Public Medical Institute, Gorakhpur

“Suppose if you want to work with some new instruments and the government sanctions it- the time lapsed between application for new instrument and actually receiving the instrument is so much that by the time it reaches you, the technology becomes obsolete”

Male Post-graduate student, Public Medical Institute, Gorakhpur

“For a doctor in a government hospital, there are no facilities. The facilities, even if they exist, are not well-equipped. So a well-qualified doctor wastes his time and his skills...”

Male UG Student, Public Medical Institute, Lucknow

“The quality of work environment is much better [in a private job]. Better job satisfaction is there”

Female UG Student, Public Medical Institute, Lucknow

Personal security, which was mentioned as an important concern by many medical students was also believed to be more of a problem in the government sector.

“First of all there is a pressure of local politician. They ask a doctor to give forged certificate and do paperwork. Due to these false documents, hassles are created”

Male UG Student, Public Medical Institute, Lucknow

One student summarizes the various disadvantages of a public sector job as follows:

“There are more disadvantages than advantages in a government job- safety, financial and political pressure. Pressure is more in rural areas. Anybody can kill us and get away with it.”

Male UG student, Public Medical Institute, Lucknow

Medical students did, however, acknowledge that there were some advantages that working in the public sector had over working in the private sector. Foremost among these was job security and a limited workload. Over 80 percent of undergraduates and 70 percent of postgraduate medical students stated, during interviews, that job security was the greatest advantage of a public sector job. However, since job security, as an attribute of a first job, was not prioritized as being of great significance, it is not especially effective in attracting students to join the public sector.

“In a government job you cannot be pulled out of a job. In private, if you do not work well you will be warned for 2-3 times and then terminated from your job. Also, if they are getting another employee on a lesser pay scale than you- with the same efficiency level as you, the private sector replaces you as quickly”

Male PG student, Public Medical Institute, Gorakhpur

“The only advantage that I think is there in a government job or a job in a public sector is that you have time to live even in times of emergencies it is a 8-2 job with fixed timings. We are not busy with work all the time”

Female UG student, Public Medical Institute, Lucknow

“It [a private sector job] takes a toll on your personal life. It takes all your time. If they pay for it they make you also pay for it”

Female UG student, Public Medical Institute, Lucknow

Alongside job security, students value a government job as they perceive that it comes with social recognition that takes longer to attain in the private sector.

“The commoners and the respectable persons in the society both go to a government doctor”

Male UG student, Private Medical Institute, Lucknow

“[A government job] gives us recognition from the society”

Female UG student, Public Medical Institute, Allahabad

A person in a government job works for 6-8 hours in a fixed time and patients keep on running after him just to meet him—because he is the only medical doctor in the area. Even if there is a very experienced private medical practitioner in that area the people might not know him to the extent people know this government doctor. “

Male PG student, Public Medical Institute, Gorakhpur

For students planning to open up their own private practice in future, the social recognition provided by the public sector is especially important. A government job offers the opportunity to gain experience and build a network of clients, both of which are crucial for a successful private practice. As one student explains:

“If somebody knows that I am belonging to a medical college, I get special respect. It gives you name and fame. Many of the professors over here have joined this medical college although they are very competent and can earn much more in the private sector; they still have joined this just to get a platform.”

Male PG student, Public Medical Institute, Allahabad

A student sums up the benefits of a government job in the following way:

“It [a government job] gives us recognition from the society. We can establish our private practice after recognition. Workload is less and no one can pull us out. Our job is also fixed-whether you work or not work nobody can terminate you.

Female Undergraduate student, Public medical institute, Allahabad

The fact that students were able to recognize some advantages of working in the public sector suggests that it may be possible to attract students into government jobs with some additional incentives. However, currently the draws of the private sector- higher salaries, better facilities at the workplace and greater personal security- are of greater importance to medical students and outweigh the benefits that a government job has to offer.

Nursing Students’ Preference for the Public Sector

In contrast to medical students, nursing students prefer to work in the public sector but for reasons that also correspond well with what they consider important factors when considering a job. For example, salary was also of primary importance for nurses, but for them the public sector actually pays better than the private sector.

“In a private job there is more work and less money”

Female Nursing Student, Private Nursing Institute, Gorakhpur

Many nursing students also mentioned job security as being important towards their career decision. The students unanimously felt that a position in the public sector offers greater job security than the private sector.

“We have safety in this [public sector] job as once you are into government job you do not have to change job every now and then.”

Female Nursing Student, Public Nursing Institute, Lucknow

“If we have some kind of personal problem and we don’t appear for maybe one month then the private people will not pay you but this is not the case in the government”

Female Nursing Student, Private Nursing Institute, Lucknow

“Most of the people go in for a government job for pension. You get secured for life. Pension will be your security for old age. Job is still there when something happens to us”

Female Nursing Student, Public Nursing Institute, Lucknow

An additional advantage of a government job was that the public sector offered fixed work timings. This was particularly important for female nursing students since their obligations to the family could be better planned around such a work schedule. As one such student elaborated:

“We can finish our work within a fixed time. It is a 9 to 5 job. Rest of the time we can dedicate it with our family. As compared to private sector the job timings are fixed and workload is less. We have safety in this job, as once you are into a government job, you do not have to change job every now and then”

Female nursing Student, Public Nursing Institute, Lucknow

It is important to also note that, in their preference for the public sector over the private sector, students in private nursing schools think no differently from their colleagues attending a public nursing school.

“In private job there is more work and less money. In a government job you have a fixed 8-hour job and after that job you are free. Even if you want to earn more money by working in private once you are finished with a government job, you can. But in the private sector, job is based on the amount of work and accordingly you get money. There are lots of opportunities for progressing further in a government job.”

Male Nursing Student, Private Nursing Institute, Allahabad

Thus, for nurses, the public sector is generally the most attractive job option. Few nursing students could mention any significant personal advantages of working in the private sector. Indeed, a job in a private nursing home was the least preferred career option and was to be considered only when they had no job alternatives in the public sector or in a private hospital.

Location Preferences: Medical Students

While there was a difference between medical and nursing students in their preference for working in the private or public sector, all categories of students overwhelmingly favored working in an urban area. When all undergraduates participating in this study were questioned on their work location choices, the majority (70%) expressed a preference for an urban job over a rural area (9%) with the remainder stating no preference. The

preference for an urban job was even more prominent among postgraduate students; less than 5% of PG students had plans of serving in a rural area at any point during their lives.

Most medical students equated working in a rural area with working in the public sector and, therefore, cited many of the disadvantages of the public sector as also being those of working in rural areas. For example, the lack of facilities in rural areas for carrying out medical procedures featured as a prominent concern. Students felt that without proper equipment available, they would not be able to use their skills and this would affect their job satisfaction.

“The doctor alone cannot make a difference. Even if you want to do something the infrastructure is not there. If there is a super-specialty hospital in a rural area I would be willing to go there daily and work there”

Female UG student, Public Medical Institute, Lucknow

“The government wants us to go to rural areas. This is wastage [sic] of our studies. Neither they have the facilities over there nor do the people over there have the money. If suppose we have to do bypass surgery in rural areas how are we going to do it”

Male UG Student, Private Medical Institute, Lucknow

“Whatever we want to do there, we will not be able to do. There are no instruments over there. We have spent 10 years of our life in studying to be a good doctor- what is the use of that if we are not able to do that”

Male PG Student, Public Medical Institute, Gorakhpur

In addition, many students felt that living conditions in rural areas were not as good as in urban areas.

“Decision for us to go rural also depends on what quality of life we are going to spend over there. Most of us who are coming into the medical education are from an urban background. Thus all of us are exposed to a good quality of life. We are getting 24-hour electricity, water, good education etc...First improve the quality of life in the villages. Improve the roads out there, make the roads well-connected”

Male PG student, Public Medical Institute, Lucknow

“There is no source of entertainment- no friends, no society, no colleagues etc. We will have our family too in future. We don't want our family to be isolated. We can stay in rural till we are not married but would like to stay on our own terms and conditions”

Female UG student, Public Medical Institute, Allahabad

“Even if the working conditions can be improved...what will we do for the roads? Where will we get enough drinking water? The connectivity is also not there. You cannot do anything for your children, for your wife”

Male PG student, Public Medical Institute, Lucknow

It is often argued that students from rural backgrounds are more likely to work in rural areas (Laven and Wilkinson 2003; Matsumoto, Okayama et al. 2005; Dussault and Franceschini 2006). In this study, however, even medical students who grew up in rural areas were not especially keen on a job in a rural area, as they aspired to a better life for themselves and their children.

“I am from a village but I would like to bring up my children where there are maximum facilities. I want to give our children the best education. I cannot speak English very well but I would like my children to study in an English Medium School...I would choose such a location for upbringing [sic] my children so that they get best possible education opportunities”

Male UG student, Public Medical Institute, Allahabad

Many female medical students worried particularly about the opportunities available for their family, and the low likelihood that their family would be able to live with them in a rural area.

“We will choose to work in urban areas. With time, we will have a family as well and everybody with you will not be willing to go in rural areas with you and when you have children, their education suffers in the rural and also their future. If you take all these things into considerations then you just cannot go out serving in the rural area; serving of course is a part of this job and will always be there whether you serve urban or rural, but other things have to be taken into consideration as well.”

Female UG student, Public Medical Institute, Lucknow

Few medical students could come up with any benefits of working in rural areas. When pressed to do so, though, some cited the possibility of recognition by the community, especially if one works in one's hometown. Others mentioned the opportunity to fulfill one's responsibility to the community by serving the poor.

“I belong to a small town- it is an area of 5000 population. They will accept me quickly and there is a lot of money. I might be invited as a chief guest on every small public event and be given much respect on all occasions”

Male UG student, Public Medical Institute, Allahabad

“The government has given me education at such a low cost. I would like to pay back to the government by working in private practice in rural.”

Female PG student, Public Medical Institute, Allahabad

These views, however, were extremely rare and very few students were willing to commit to being interested in taking a rural posting.

Location Preferences: Nursing Students

Nursing students also preferred working in urban areas although they were, in general, more amenable than medical students to working in rural areas. The majority of nurses were keen to work in an urban area for many of the same reasons as medical students: better working and living conditions.

“In urban areas safety is more as compared to rural areas...there is a problem of electricity and water in the rural area. So we cannot give our 100% to the patients”

Female Nursing Student, Private Nursing Institute, Lucknow

“There are no facilities over there [rural]- no proper living facility, no electricity. We cannot do night duty over there- it is unsafe and there is no proper living place...also there are no conveyance facilities- we cannot move to the city easily”

Female Nursing Student, Public Nursing Institute, Lucknow

However, many nursing students seemed more open to the idea of working in rural areas, especially if they could return to their home villages. Therefore, in contrast with medical students, a rural background apparently made nursing students more favorable towards a rural job.

“Most of the respondents over here are from rural background so if we are offered a job in the same area we can work there as well. We can understand the local people’s problems better. In order to know the sufferings of the villagers better, I suggest that our training should be done in rural as well”

Female Nursing Student, Public Nursing Institute, Lucknow

“If I were offered a job in rural, I will take it because it will give me a better chance to serve the society. In the city there are many institutions offering health services to the people but the villagers are in dire need of them as there are very less health-related institutions over there...I belong to a village also, so I would like to serve in villages as I understand their sufferings better.”

Male Nursing Student, Public Nursing Institute, Lucknow

Nursing students emphasized that if facilities were improved in rural areas, a posting in a rural area would be very attractive to them.

“If salary is there and facilities are there we will all go to rural”

Female Nursing Student, Private Nursing Institute, Allahabad

“If the facilities for education are increased in rural we will stay there for lifetime and not ask for urban transfer ever.”

Female Nursing Student, Public Nursing Institute, Lucknow

For many medical students, working in rural areas is not a very attractive option. Significantly, this was the case even for medical students with rural backgrounds. On the

other hand, nursing students are much more receptive to the idea of working in a rural area. While nursing students also desire to work in an urban area, they appear not to be averse to serving in a rural area, perhaps a reflection of the stronger ties they have to their rural roots.

Combined location (urban/rural) and sector (public/private) preferences

The perceptions and results presented in the previous sections are based on students' opinions when considering location, or the type of establishment (public/private), separately. Students were also asked to choose between combinations of location and sector: urban-private, urban-public, rural-private, rural-public. The results (Appendix, Table 3) lead to a few conclusions.

For medical students, the choice between the public and private sector was a little ambiguous; while students seemed much more attracted to the private sector, they acknowledged that the public sector offered several advantages. Indeed when directly asked to choose between a government job in an urban area and a private job in an urban area, students actually preferred the former (Appendix, Table 3). This result was somewhat surprising given that the private sector clearly seemed the preferred choice during discussions and interviews. There are a couple of reasons that could explain this anomaly: firstly it is possible that while the private sector is more attractive in the long-term, a government job is preferable as a first job, and is used as a temporary stepping stone for private practice. Another possibility is that when students were asked to compare the public and private sector, the public sector job was imagined in a rural area (where students are likely to be posted first) while the private sector was assumed to be in an urban area (as there are few rural private practices). Therefore, when they were provided with the option of both the public and private sectors in an urban area, the public sector became a more attractive choice. A private practice in a rural area was the least appealing option, most likely because it was not expected to be very lucrative.

Though there was not a clear-cut preference between the public and private sectors, it appears that, for medical students, an urban job always dominates a position in a rural area. That is, an urban job is always the preferred option. Thus, for medical students, location is the dominant factor in selecting an ideal first job. On the other hand, for nurses the public sector is always the preferred option and this governs a student's decision of where to work. Like medical students, nurses also preferred an urban public job to an urban private job, though by a much larger margin than did medical students. Similarly in a rural area, a government job is again the preferred choice. Moreover, for nurses, rural private is also the least preferred option. The difference is that nursing students actually preferred a rural public job to an urban private job, whereas for medical students it was the other way around. Therefore, for nursing students, the determining factor was not the location but the type of enterprise- the public sector being the most appealing choice.

Incentives for rural service: Medical Students

In order to gain a sense of what would motivate them to work in rural areas, both medical and nursing students were presented with various incentives – addressed separately each time – for doing temporary service in the public sector in rural areas. These included a 50% reservation in post-graduate courses, legalized private practice, increased training opportunities, good housing, faster promotions, a guaranteed urban transfer and a rural posting near the student’s hometown. Each of these incentives was presented by itself, in the absence of any other inducements. Students were then asked to rate the attractiveness of each incentive by saying that it was “Very Important”, “Important”, “Somewhat Important” and “Not important”.

The incentives that were offered were all non-financial incentives. Students were also asked about the salaries they would like to receive if they were to work in a rural area. However, the results covered a wide range of amounts, and it was not clear whether students had a sense of what they would like to earn, or even what they would currently earn, in the public sector. The salary expectations of medical and nursing students require further study and are, therefore, not discussed in this paper.

The most appealing non-financial incentive for both undergraduate and post-graduate medical students was a 50% reservation in PG courses for students who had completed a stint in a rural area following their MBBS degree (see Appendix, Table 4). Over 80 per cent of undergraduates interviewed were very attracted to rural service for 2-3 years with 50% PG reservation (saying that it was “very important” to “important”). This is perhaps not surprising, given the extreme competitiveness of admissions to post-graduate programs of study.

“Two years compulsory [rural] posting for quota [50% reservation] is very attractive”
Male PG student, Public Medical Institute, Allahabad

“Those of us who do not want to go in for PHC job [primary health center in a rural area] do it because he/she wants to do his/her PG. In case the government makes some provision of giving PG then it will solve the problem of the government and ours as well”
Male UG student, Public Medical Institute, Gorakhpur

Further trainings or continuing education was also an attractive incentive for medical students.

“We would like to take up a job where there are opportunities for further specialization.”
Male UG student, Public Medical Institute, Gorakhpur

“Getting trainings will be a very good thing to do. If we work for 1-2 years and then we are provided with say six months training which is useful for us, we are able to apply this knowledge in our center then it will be very nice in a government setup. But it should be regular”

Male PG student, Public Medical Institute, Lucknow

Both undergraduate and post-graduate medical students felt that good housing, on its own, and in the absence of any other facilities, was not of great significance in attracting students to public sector jobs in rural areas.

“Housing for us is not important. Location is important”

Female UG student, Public Medical Institute, Allahabad

“This [Good Housing] is not attractive at all. We will not grow professionally in rural what are we going to do with that house?”

Male UG student, Public Medical Institute, Allahabad

Students also felt that if the government were to give faster promotions to doctors serving in rural areas this would not be particularly effective in recruiting students to public service in rural areas.

“Only promotion cannot do anything. The main thing is money. Unless money will not be pouring in what difference will it make? Even after promotion if you become a CMO [Chief Medical Officer], you will still earn Rs. 30000-40000 as compared to a private doctor who earns Rs. 70000-80000”

Male UG student, Private Medical Institute, Lucknow

“Only promotion will not benefit much. Instead of promotions, qualifications should increase”

Male UG student, Public Medical Institute, Allahabad

Medical students were much more inclined to favor government policy that attempted to post students near their hometown. They were, in general, willing to tolerate only a certain distance from their hometown even if posted in the same district. As one student explained:

“If posted in the hometown [sic] many of us can go but the CHC needs to be only 30 min to 1 hour distance from our house. If the time between home and CHC is more than that then what is the use of choosing hometown?”

Male PG, Public Medical College, Gorakhpur

Incentives for rural service: Nursing Students

The most important incentives for nursing students were similar to those of medical students. As nurses are also keen to pursue further education, reservation in BSc courses for nurses who work in rural areas was considered an appealing prospect.

“This is a good option if it helps you to get into BSc. Nursing. If we do it in private by our own means we might not be able to qualify it”

Female Nursing student, Private Nursing Institute, Gorakhpur

However, for nurses, the most attractive option was in fact a posting in a rural area near their hometown or village.

“If we can get a job in our home village it is the best thing that can happen otherwise we can adjust to other options as well.”

Female Nursing Student, Public Nursing Institute, Lucknow

Once again the least appealing incentive was the promise of solely good housing in rural areas.

“Only for the house we will not go. Maybe our house in the urban area is not as good but still we are ready to face challenges of high cost of living at urban and stay here[in urban area] only”

Female Nursing Student, Public Nursing Institute, Allahabad

As the government considers various options for increasing the attractiveness of a rural posting in the public sector it is important to consider the likely effectiveness of the incentives it offers. From the FGDs and interviews with medical and nursing students, reservations in PG courses (for medical students) and BSc. courses (for nursing students) emerged as one of the most successful methods of encouraging students to take up a post in a rural area. Postings near the student’s hometown also appear to make working in a rural area a more appealing prospect. And finally, across all types of students, a focus on good housing, alone, was least likely to tempt students into taking up a government job in a rural area.

4. Conclusion

The acute imbalance in the geographic distribution of health workers has important implications for access to health care for the rural population. The government has invested in a vast rural health infrastructure in order to provide affordable and quality healthcare. However, recruiting personnel to staff these facilities is a major difficulty. For example, in UP, more than half the posts for various types of specialists are currently vacant (Government of India, 2006).

There are several factors that could explain the shortage of doctors in the public system. For example, the State may not be producing sufficient medical personnel to fulfill its requirements. Or, even if there is an adequate supply of health workers, there may be bottlenecks in the recruitment process that make it difficult for qualified workers to enter the government system. Finally, it is possible that candidates that are eligible for these posts choose not to enter the system for various reasons. While it is likely that all these contribute to the large vacancy rates, it is this last issue that this study explores in further detail.

The rising expectations of medical students are difficult for the government to satisfy:

This study focused on graduating medical and nursing students, as they were most likely to be entering the job-market in the near future. The discussions revealed, however, that many of the students, especially the medical undergraduates, were keen on further study. They believed that in light of current social perception of a MBBS doctor and based on the training received in the undergraduate degree, a postgraduate degree had become almost a necessity for a good prospective career, especially in the private sector. Both undergraduate and postgraduate students expressed the view that within 2 to 3 years after completion of the MBBS, the vast majority of their MBBS-graduate colleagues would enter into some postgraduate course of study. Moreover, the study found that once a student undertakes a PG course, job expectations are raised higher than that of an MBBS student: first, there is a significantly higher salary expectation; second, there is even more prioritization to utilization of skills which translates into a demand for better facilities and a patient-load of complex cases. On completion of a PG course, students are far less likely to join jobs advertised in the government health sector (Appendix Table 2). Consequently, the choice of nearly all medical students to enter into postgraduate education, and their success in this, causes a supply problem for the government sector on two fronts: first, doctors with an MBBS degree are not inclined to enter the job market creating shortages in the supply of non-specialist doctors. Secondly, medical doctors with postgraduate training do not find government service attractive under the current incentive environment of a government job. The problem is only likely to get more severe as the state has very few medical colleges and, with PG-trained doctors increasingly in demand, the graduating doctors are easily attracted to the advantages of career avenues existing in the private sector.

Nursing students expectations are more compatible with government needs

In contrast, evidence in this study shows that nursing students, whether in public or private nursing institutes, are overwhelmingly in favor of a public sector job over one in the private sector. The study also finds the average nursing student is more inclined to working in rural areas than the average medical student. Any reported shortage of nurses in the government health system, therefore, cannot be attributed to low motivation of nurses to work in the public sector since reality in fact points to quite the opposite. With a significant growth of nursing schools across the country, including in UP, graduating nursing students are not in short supply but instead on the rise. Consequently, any persistent vacancies to sanctioned nursing posts or continued shortfall in inducting adequate numbers of nurses into the government health system is not a result of short supply or low motivation of nurses to join. Explanations for such persistent dearth of nurses in the government health system must instead be explained through other factors, whether they be bottlenecks in the recruitment process, low number of overall sanctioned nursing posts with respect to needs, poor quality in the supply of nurses or other reasons entirely.

The Need to Think in Terms of Incentive Packages:

The evidence in this study makes clear that when both medical and nursing students are asked to identify a set of ideal job attributes, the resulting list of attributes is not surprising but somewhat a “known list” expected of any job in any sector (see, for example, the ideal job attributes identified by undergraduate medical students in

Appendix, Table 5). For instance, in the case of both medical and nursing students, there is a preference for working in an urban location over a rural area for reasons that include prospects for better education of children in a town or city. However, when jobs are considered as *packages* rather than addressed through the lens of a single attribute, the evidence in this study points to conclusions that are less expected. In the case of nursing students, even though they prefer an urban over a rural location for a job, they have a greater preference for the *package* of a public sector job over one in the private sector. Consequently, for nurses, the option of a rural posting in a government job is more attractive than working in a private sector urban job (a clear choice shown in Appendix Table 3).

In the case of medical students, as well, the degree of importance to be attached to a single job attribute may be vastly different when presented on its own and in a package; it is the latter that decides how effective a change in the attribute will be in acting as an incentive to attract students to rural service. For instance, good housing was listed as an important attribute in an ideal job. However, this study also asked students to rate how attractive a guarantee of good housing in a rural area was *in otherwise currently existing conditions*. Most students answered that a good housing incentive was weak in itself with other existing conditions of a job in rural areas unchanged. Therefore, although the existence of good housing itself is an important job attribute for medical students, simply a good house would appear to be largely ineffective as an incentive to draw students to rural service in *a package* where the other attributes of a rural government job remain unchanged.

This was not, however, the case when the focus on a single incentive is changed to reservations in a PG course after a set period of service in a rural area. A government policy that reserved PG seats for in-service doctors posted in rural areas for a set period is likely to attract students even with other conditions still unchanged. However, while reservation of PG seats is likely to be an effective incentive on its own, it raises the issue of long-term sustainability and the quality of health services provided. MBBS doctors may put in time in rural areas because it gives them a better chance of getting a PG degree, but they are more likely to provide quality health care if given a package of incentives that also addresses their concerns about rural areas such as a supportive work environment and good living conditions. Moreover, since PG reservation is such a powerful incentive on its own, less would have to be invested in improving other aspects of the package.

A better understanding of students' preferences to attract doctors to rural service can also have policy implications of significance by drawing attention to innovative linkages, which may otherwise go unnoticed. For instance, should the government decide to pursue a policy of reservations of PG seats, it would then have to consider the ramifications of providing PG education to an increased number of in-service government doctors serving in rural areas. Policy would, therefore, need to focus on PG colleges and possibly the resources required to increase their number or their intake. There is, then, a link between the need to bring more MBBS doctors to rural areas to provide basic care and a policy focus on specialized tertiary-level medical education.

As the government considers the enormous shortage of medical and nursing personnel in rural areas, this study and its results make an important case to look beyond the policy measure of compulsory service in rural areas that the Union Government is inclined to promote as *the* remedial measure. The evidence from this paper suggests that the labor market and incentives as packages in step with the career preferences of medical and nursing students have significant influence on the choice they make for the job that they take on completion of their course of studies.

In drawing on the evidence reported in this paper and observations from fieldwork for this study, the paper in conclusion forwards two arguments: first, with the majority of undergraduate medical students attracted to postgraduate study, under the current incentive environment, in UP there is less likelihood of increasing the supply of MBBS doctors for government jobs. In contrast, even under the current incentive environment, increasing the number of nurses in the public sector is very feasible, given their preference for government jobs. Secondly, in attracting students to take a job in the public sector health system, an incentive *package* approach with innovative linkages tuned to the career-related preferences of students is probably more effective than an exclusive focus on bettering any key job attribute to satisfactory levels. These arguments are important in understanding and addressing the shortage of doctors and nurses in the government health system, especially in rural areas.

Suggestions for Future Research:

Health care providers are driven by multiple factors in developing the preferences that contribute to making an employment choice, which include the following: extrinsic characteristics directly relating to the individual (rural/urban or socio-economic background); certain qualities intrinsic to the individual (such as age or gender); and finally the influence of current context (location, peer group, or societal) in which the individual is embedded. In engaging with three different locations in UP, and with both medical and nursing students, this study also contributes in a limited way to ascertaining the relative influence of some of these factors over others.

This study deliberately selected three different locations that provided three different contexts with relation to the proximity to rural areas, to the perceived quality of the institutions and to the academic standard (established solely on examination results) of students. Based on the limited evidence from this study and the small selected sample in each of the three places visited in UP, there is little difference in the preferences of students from different locations (Appendix, Table 2); this is true both within the sample of medical students and within the sample of nursing students who participated. In this study, students who were from a lesser-known medical college in a smaller town did not appear to be more likely to take a rural posting than students from an elite medical college in an urban environment. This may be due to the fact that few students came from very rural backgrounds (see Demographic Table above). Indeed, medical students as an entire group came largely from students educated in a city or a small town (irrespective of location of medical college) and had very similar backgrounds across colleges. The same was largely the case for nursing students as a group.

There were, however, significant differences that existed between students in a medical college and those in a nursing school in the level of their expectations and aspirations. On the basis of field observations, the socio-economic background of the majority of medical students was vastly different from the socio-economic background of the majority of nursing students. Moreover, medical students appeared to be far more urbanized in their tastes and lifestyles as compared to nursing students, irrespective of their background. The limited evidence from this study suggests that even the few medical students who are from a rural background tend to be far less inclined to return to a rural area to work, but instead are motivated to give their children a very different upbringing from their own. This is evidence contrary to the hypothesis that medical students from rural areas are more agreeable and motivated to serve rural areas. Nursing students from rural areas, however, indicated in this study that their rural background in fact made them more favorable to a rural public sector job

This study offers, therefore, a hypothesis different from the existing literature and its focus on the rural/urban background of health workers. It proposes, instead, a behavioral approach where medical and nursing students' choices reflect the perceptions of the dominant group, irrespective of their individual characteristics. According to this hypothesis, medical colleges in UP may not be able to provide health care providers for rural service in any sustainable form since graduates are highly urbanized in their preferences and consequently their choices. On the other hand, a different student culture in nursing schools may explain the increased motivation of nursing students towards rural service. Further research along these lines may bring greater clarity to important determinants that influence the rural predisposition of healthcare providers and can inform government policy in this regard.

Above all, the evidence from this study is justification for a better understanding of the preferences of future doctors and nurses so that the government can in fact respond better and *more strategically* to address the immense deficiency of trained healthcare providers for the most vulnerable groups of the population, invariably at present in remote rural areas

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Appendix

Table 1: Medical students' preferences for post-graduate specialties

Post Graduate Specialty	Male (UG)	Female (UG)	Post Graduates
Paediatrics	1	2	1
Obstetrics & Gynaecology	11	1	5
Pathology	10	9	9
Community Medicine (SPM)	9	10	11
Anaesthesiology	8	7	10
Radio-diagnosis	5	6	1
Medicine	3	4	3
Surgery	2	3	4
Orthopedics	3	11	7
Ophthalmics	7	5	8
Dermatology & Venerology	6	8	6

Table 2: Preference for urban position or public sector job by location of medical/ nursing school and type of student

Location	Student	Sector (%)			Location (%)		
		Public	Private	No pref	Urban	Rural	No pref
Lucknow	UG, Male	35	30	35	45	10	45
	UG, Female	39	39	22	83	4	13
	PG	25	44	31	100	0	0
	Nurses	59	0	41	68	0	32
Allahabad	UG, Male	27	53	20	53	20	27
	UG, Female	42	42	17	67	17	17
	PG	17	50	33	85	0	15
	Nurses	77	0	23	45	27	27
Gorakhpur	UG, Male	43	36	21	79	7	14
	UG, Female	40	27	33	100	0	0
	PG	15	77	8	69	15	15
	Nurses	65	8	27	88	8	4

Table 3: Students' preferences for various combinations of location (urban/rural) and sector (public/private)

	Urban public	Urban private	Rural public	Rural private
UG male	2.11	1.61	1.50	0.78
UG female	2.61	2.11	0.94	0.67
PG	2.39	2.06	1.00	0.56
Nurses, pvt	2.72	1.11	1.78	0.39
Total	2.42	1.70	1.29	0.59

Note: Students were asked their preference based on binary choices with combinations of location (urban/rural) and sector (public/private); for example they were asked which they preferred between an urban public job and an urban private job. There were six such binary choices given with each combination appearing three times. Each time a certain combination was picked it was given a score of 1 and this was added up and then divided by the number of students in that category to obtain the mean score. The mean score gives an indication of the popularity of that choice relative to the other choices.

Table 4: Mean Scores for incentives for rural service

Category	All Medical Students	UG Medical Students (Male)	UG Medical Students (Female)	PG Medical Students	Nursing Students (Private)
Private Practice	2.44	2.83	2.00	2.71	NA
Housing	1.98	1.83	2.32	1.67	2.28
Fast Promotion	2.35	2.08	2.47	2.40	2.56
Training	2.80	3.17	2.84	2.47	3.06
PG Reservation	3.02	3.50	2.79	2.93	3.11
Transfer	2.50	2.00	2.47	2.88	2.92
Home Posting	3.04	2.60	2.92	3.44	3.42

Note: Students were presented with each incentive on its own and asked to rate its attractiveness to them saying whether it was "Very Important", "Important" "Somewhat Important" or "Not Important". Each choice was then given a score ranging from 1 to 4, 1 being "Not Important" and 4 being "Very Important". The mean scores for each incentive were calculated and are presented in the table above. A higher score indicates that that incentive was found more attractive.

Table 5: Ideal job attributes listed by undergraduate medical students during in-depth interviews

Extrinsic Factors	Intrinsic Factors
<ol style="list-style-type: none"> 1. Salary 2. Better utilization of acquired skills 3. Better health infrastructure 4. Availability and Functioning of equipment 5. Availability of adequate trained staff 6. Amiable work environment 7. Good living conditions such as: <ol style="list-style-type: none"> a) Accommodation b) Water c) Electricity d) Roads e) Education for children f) Personal Safety 8. Job Security 9. Fixed work hours 10. Workload 11. Permission for private practice 12. Location 	<ol style="list-style-type: none"> 1. Prestige 2. Social Respect and recognition 3. Serving the community 4. Better growth and learning opportunities

Table 6: Advantages of working in the Public Sector, in a Private Corporate Hospital or in a Private Clinic that were mentioned by medical and nursing students during focus-group discussions and in-depth interviews

	Public sector			Private corporate hospital			Private clinic		
	UG	PG	Nurses	UG	PG	Nurses	UG	PG	Nurses
Job Security									
Annual Leave									
Pension									
Limited work-load									
Exposure to variety of patients									
Knowledge sharing									
Participate in National Programmes									
Respect from society									
Freedom to work independently									
Provides contacts/clients									
Opportunity to do research									
Good salary									
Promotion									
Opportunity to serve the needy									
Latest methods/procedures									
Good housing facilities									
Better work environment									
Opportunity to utilize skills									
Urban location									
Performance-based promotion									
Hospital managements system									
Growth opportunities									
Advanced learning opportunities									
Time-bound promotions									
Skill upgradation									
Better quality of life									
Flexibility in work hours									
Safety									
Better facilities at work									

In-service education/training									
Consistent income									
Freedom to take decisions									
Performance-based pay									
	Public sector			Private corporate hospital			Private clinic		
	UG	PG	Nurses	UG	PG	Nurses	UG	PG	Nurses
Flexibility in work location									
Long-term sustainable settlement									
Self-accountability for work									
Easily available option									
Self-satisfaction									
Easy to switch jobs									

Table 7: Disadvantages of the working in the Public Sector, in a Private Corporate Hospital or in a Private Clinic that were mentioned by medical and nursing students during focus-group discussions and in-depth interviews

	Public sector			Private corporate hospital			Private clinic		
	UG	PG	Nurses	UG	PG	Nurses	UG	PG	Nurses
Low Salary									
Rural posting									
Poor living conditions									
Safety									
Adjustment problem									
Unable to utilize skills									
Red Tape/Corruption/Bribery									
No learning opportunities									
Frequent Transfers									
Lack of infrastructure									
Bad work environment									
No monitoring and evaluation system									
Long procedures/paperwork									
Lack of technology available									
Late Promotions									
Limited freedom to take decisions									
Non-availability of drugs									
Less self-satisfaction									
Promotions based on seniority									
Non-committed co-workers									
Job insecurity									
High workload									
Always "on call"									
Less exchange of knowledge									
Fewer patient types									
Pressure to deliver									
Limited outreach within community									
Limited annual leave									
Inflexible work timings									
"Commercialization" of medicine									

Less respect from patient										
Less respect from society										
High capital investment										
Long time for settlement										
	Public sector			Private corporate hospital			Private clinic			
	UG	PG	Nurses	UG	PG	Nurses	UG	PG	Nurses	
Inconsistent income/ job insecurity										
Greater accountability										
Highly competitive										
No legal immunity										
Lack of guidance										
Fewer training opportunities										
No opportunity for research										
Multiple work roles										