

## **Human Resource for Health: The Crisis, the NRHM Response and the Policy Options**

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### **I. Background**

The problem of non-availability and uneven distribution of skilled health care providers has been identified as a universal challenge faced by the countries. There are vast differences in the magnitude of the problem across different countries largely driven by socio-economic and political factors. World Health Organisation (WHO) estimates show a shortage of about 4 million health workers, and this more than any other single factor may lead to failure of attaining the Millennium Development Goals (MDGs) within the set timelines. It also suggests that “in absolute terms, the greatest shortage occurs in South-East Asia, dominated by the needs of Bangladesh, India and Indonesia. The largest relative need exists in Sub-Saharan Africa, where an increase of almost 140% is necessary” (WHO, 2006).

### **II. International Norms**

The International norm used as a reference was suggested by Joint Learning Initiative by Rock Feller Foundation 2006, which recommended a minimum of about 2.28 skilled health workers per 1000 population (doctors, nurses & midwives) in order to achieve a minimum of 80% coverage rate for deliveries by skilled birth attendants or for measles immunization. This norm has since been tested by other studies and is now the standard reference figure.

### **III. Indian Norms**

National Rural Health Mission (NRHM) launched Indian Public Health Standard (IPHS) laying down national level staffing norms for each level of public health facilities. According to the norms laid down originally by the Planning Commission and reiterated by the standards, the nation is committed to providing a health sub-center for every 5000 population, a primary health center for every 30,000 population, a community health center for every 120,000 population and 100 to 200 bedded district hospital for every 1 million population. In tribal areas the density is increased to a sub-center for every 3000 population, a Primary Health Centre (PHC) for every 20,000 population and a Community Health Centre (CHC) for every 80,000 population.

The health sub-center by the newly created IPHS norms is to be staffed by two auxiliary nurse midwives (ANM) with 18 months training and a male health worker. The primary health center by three doctors plus a fourth trained in indigenous medical systems as well as by five staff nurses and one ANM. The community health centre which is conceived as a rural hospital with 30 beds, a functional operation theatre and blood storage facilities is to be staffed by 6 General duty doctors and six specialists and nineteen nurses. And the district hospital norm is to be staffed with at least 30 doctors and thrice as many nurses for a 101 to 200 bedded hospital.

There has been criticism that such norms are unrealistic and excessive. However, calculating for a normative districts of 1.8 million population, the number of health facilities would have one 200 bedded district hospital, and about 10 CHCs and 50 PHCs and about 400 sub-centers, the human resource density we would achieve would still be only a modest 100 doctors, nurses & midwives

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for 100,000 population which is still well short of the international norms of 228 per 100,000. It is only if we add in the one accredited social health activist (ASHA) per 1000 population that we come close to the international norm but then the norm was created for only skilled health care providers.

However, while one could reject the criticism of this being excessive, one has to concede that for most states even this modest goal is unrealistic because of budgetary constraints and more important because of lack of sufficient skilled professionals available for recruitment. However, what the IPHS has achieved is to change the perception of staff requirements in the public health system, into one which is much closer to reality.

#### **IV. HRH Crisis in India**

As per the Medical Council of India (MCI) Annual Report 2008, total number of doctors registered in the country up to 31<sup>st</sup> March 2008 is 6,95,254. This translates in to doctor to population ratio of 1 per 1600 persons or 6 per 10,000 populations which is significantly lower than developed countries like Australia, Canada, UK and US (WHO, 2008).

The nurse to population ratio in India 1:1205 as against 1:100-150 in Europe while nurse to doctor ratio is about 1.3:1 as compared to ratio of 3:1 in most developed countries (NCMH, 2005).

NSSO and the Census estimates of total health workers is around 2.2 million health workers in India, which gives a density of approximately 20 health workers per 10,000 population (PHFI & World Bank, 2008). This figure, however, has to be adjusted for the fact that both Census and NSSO include all those who self report to have medical practitioners as their main occupation. This includes a large number of unqualified persons often not even school passed. This is as high as 40% of doctors. Again in nurses those in the registers are much higher than those who are practicing. Recalculating these figures Krishna Rao and Berman (2008) in their paper conclude that a more realistic estimate would put doctors at about 13 per 10,000 with 5 doctors per 10,000 and 8 nurses per 10,000 population.

**Even of this number of doctors the distribution is skewed. The rural areas are still unable to access the services of the allopath as 74% of the graduate doctors live in urban areas, serving only 28% of the national population, while the rural population (72%) remains largely underserved** (Task force on Medical Education, 2006)

The biggest challenge for the provision of health care services and attaining the MDG is the acute shortage of health personnel and disproportionate skill mix of the existing staff. An analysis of the trends of critical health indicators like infant mortality rate (IMR) & maternal mortality ratio (MMR) and availability of health personnel show a positive correlation where countries with better availability of skilled health personnel also have lower mortality indicators. This shortage of nurses & midwives and physicians is well reflected in some of the health indicators such as – IMR (2006) – 5 in UK and 57 in India and MMR (2005) – 8 in UK, 4 in Australia and 450 in India. Percentage of births attended by skilled health personnel (2006) also follows a similar pattern across the countries. The only exception is that of Srilanka, which has about 97% of births being attended by skilled health personnel with only about 17 nurses per 10,000 population and much lower IMR of 11 and MMR of 58 as compared to India. (World Health Statistics, 2008)

#### **V. Estimating Human Resources from Sample Districts**

Given the marked limitation of every data source when it comes to estimating the numbers, we tried counting the numbers in a few index districts – from both poor performing states and from

well performing states and then contrasting it with what it would have been with IPHS standards applied to a normative district.

Primary district level data regarding the sanctioned posts and in position human resource (HR) was collected from the following four districts to assess the shortfall against sanctioned as well as the IPHS norms. If we create an example of normative district with 1.8 million population (1.13 billion population divided by 613 districts). Such a district would have 400 sub-centers (1 per 5000), 50 PHCs (one per 30,000 excluding sectors where the CHCs play the role of PHCs), 9 CHCs (one per 1.5 lakhs excluding the block sub-served by the district hospital and an urban population of about 3 lakhs, presumably the district headquarters town) and a district hospital. By existing staffing practice such a normative district would have approximately about 500 to 600 nursing and allied staff and 100 doctors. By IPHS standards this figure would increase to 1400 nursing and allied staff and 300 doctors – almost two and half times the current amount.

When a comparison is drawn between the normative district and other six districts it becomes evident that the sanctioned posts in all of the six districts are not adequately allocated as per the population norms and therefore lag much behind the IPHS norms. Of these six districts only Vellore, which is also one of the best performing districts has the highest ratio of 61 doctors, nurses and midwives for 1,00,000 population. Even with zero vacancies against the sanctioned positions for these categories the district needs to increase the posts by 39% to fulfill the IPHS norms (District Authorities, 2008).

There is a larger gap for all health workers when compared to IPHS norms e.g; Vellore district should increase HR posts by 50% while one of the Muzaffarnagar district should increase the posts by 85% to meet the IPHS criteria (District Authorities, 2008)

## **VI. Reasons for Crisis**

1. Failure to sanction adequate number of public health facilities, the central instrument of attracting doctors to rural areas becomes the creation of adequate density of government managed health care facilities with government salaried staff. There is increasing private sector penetration into rural areas but it is secondary to both the pattern of urbanisation and secondary to the penetration by the public sector. Thus states like Kerala and Tamil Nadu which have a well dispersed urbanisation with over 40% population in urban areas could provide better private sector access than a state like Uttar Pradesh or Bihar where there are few towns and very low densities of public sector density. We caution that this refers only to the formal qualified and legal service provider. To fill the gaps in skilled service providers a huge informal and unqualified service provider force has risen in the private sector, but whether this has any positive consequences for health care is doubtful (PHFI and World Bank ,2008;Narayana,2006).
2. In absence of any uniform guidelines for the number of posts to be sanctioned for all the categories of health staff and the financial constraints, states developed their own norms which were developed on an ad-hoc basis mostly in accordance to the limited budgetary allocations.
3. The reasons for failure to attract and retain service providers against sanctioned posts in public health facilities relate to lack of skilled persons in the open pool who are available for recruitment due to absolute lack of skilled providers. Fiscal crisis the states were facing in the 1990's, led to a complete stop of new facility creation. Even recruitment for purely replacement purposes of retiring staff stopped in many of the states especially the poor performing states of North India (AWPIDRC, 2008). Government run nurse training schools- ANM and general nursing and midwives (GNM) courses mainly-collapsed in any schools and promotion of ANMs into supervisors stopped due to the breakdown of lady health visitor (LHV) courses. This led to a situation from which we have still not fully recovered.

**Health sector reforms in the 1990's did not take up any major initiatives for improving attraction and retention of the skilled professional or of improving their performance. The problem was posed repeatedly, but more often in a rhetorical manner, without any hope of solutions as these was seen to be part of inherent problems of being a public sector.**

Today there is an increasing recognition that the success of health sector reforms especially with regards to the public sector are critically dependent on addressing the number, skill mix, distribution, education, training, management and working conditions of the workforce (WHO,2007). The problem of retention of workforce is therefore to be seen as part of the same complex of factors that lead to poor availability of human resources and to attraction of doctors and nurses from the pool available in the workforce to work in rural and remote areas.

## **VII. Addressing Public Sector Human Resource Gaps under NRHM**

The launch of the NRHM in 2005 marked a turning point for public health planning in India. One of the key features of the NRHM was a strong commitment to increase public health expenditure from 0.9% of the GDP to at least 3% of the GDP. The other key feature was that it made a clear commitment to the public provisioning of health care services, though it did not rule out public private partnerships in supplementary and supportive roles. The commitment by the centrally funded NRHM scheme to provide the funds needed to close the gaps between posts that were sanctioned by state governments and posts that were required to meet NRHM norms, dramatically changed the situation. As an immediate measure states were funded by the centre to hire a second nurse-midwife for the peripheral health sub-centre and three nurses and a second doctor in the primary health centre and nine nurses and 7 doctors including 5 specialists in the 30 bedded peripheral hospitals. Further processes of recruitment were expedited by empowering district health authorities to allow immediate appointment on contractual terms. This led by 2008 to the appointment of almost 82,343 more skilled service providers in the public health system- and this is counting only those with medical or nursing qualifications. This was one of the largest increments to the public health workforce in recent times.

However, the other problems remained of how to retain them remained. Also most of the states that needed it most were unable to make use the opportunity afforded by NRHM simply because there was not enough ANMs or nurses or doctors available for recruitment and there was no clear policy of how to attract them into rural service.

## **VIII. Attracting and Retaining Skilled Service Providers in Rural and Difficult Areas**

### **(i) International Experience**

To address this issue of human resource for health (HRH) crisis in rural and remote areas across countries various innovative human resource policies have been rolled out and many new are being designed. WHO has documented such strategies for 19 countries through an extensive literature review. Six recent published literature reviews, of which two are systematic reviews and one is a Cochrane protocol for a systematic review, have attempted to provide a systematic analysis of the literature on the various strategies that have been used to increase access to health workers in remote and rural area (Grobler et al, 2005, Chopra et al, 2008, Bourgueil et al, 2006, Lehmann et al, 2008, Sempowski et al, 2003, Wallis-Shattuck, 2008---cited from WHO, 2009) Based on the findings of these reviews across countries, the following categories of the effective retention strategies have been developed.

#### **(a) Education interventions**

- Observational studies have shown that health professionals from rural background tend to serve in their native remote areas more and for longer duration as compared to the candidates from urban background. Therefore, the policy of preferential selection of the

health workers with rural or tribal background for educational courses is being explored by many countries.

- Producing different types of health workers (mid-level cadres substitution task shifting: non-physician curative care skills, non-physician surgical skills; specialist skills through short term in- service courses, bridge courses from CHWs to nursing, CHW programmes themselves.): The skill set they are trained in can be licensed only within public health system and that too only within rural areas..

#### **(b) Regulatory interventions**

- Compulsory placement in rural or difficult areas for a specific tenure against a bond. The tertiary hospital-based model of medical education in an urban setting provides limited exposure to health needs and infrastructures of the rural areas. Medical graduates thus develop a preference to work in urban areas as compared to rural or remote areas. The effectiveness of compulsory placement has been assessed by descriptive surveys with inconclusive results (WHO, 2009).
- Professional opportunities linked to career path- better opportunities of doing a Post graduate course, or skill up-gradation opportunities when offered as an incentive for health professionals working in rural / remote areas,--without any mandate of bond have shown better results.
- Recognizing overseas qualifications is also a step that has helped many nations. Even in India, doctors educated in Russia, Ukraine, China, need to be recognized and certified locally and drawn into the practice.
- Conditional licensing (license to practice in exchange of location in rural areas) – as is being considered for the Indian rural medical degree programme.

#### **© Monetary compensation (direct and indirect financial incentives)**

Direct financial incentives to practice in rural areas may encourage rural practice, in particular in developed countries, but reports from developing countries are not all positive with the exceptions perhaps of very few countries, such as Mali, Zambia and South Africa (WHO, 2009).

- Providing higher salaries for working in rural areas helps build morale. However to be effective in shifting more providers to these areas the incentives need to be high enough to cover the opportunity costs - just token amounts not enough.
- Performance based incentives given after delivering services and achieving a certain target set for the health personnel is best used as an additional strategy.

#### **(d) Management, environment and social support**

- Poorly designed workforce management policies and lack of community support have failed to develop an enabling working environment for the health workforce. These policies affect the motivation and the retention rates to a larger extent than anticipated.
- Professional and community support to rural workers encourages rural practice and can be achieved by supportive supervision, internet access and community involvement projects, as well as by professional networks etc. (Loevinsohn et al, 1995, Marquez and Keanne, 2002, Lehmann et al, 2008) (cited from WHO, 2009). Very few countries have implemented large scale interventions to improve the infrastructure and living conditions, and evaluations of these interventions have been published (Mali, Thailand and Zambia are such examples) (Noree et al, 2005; Wibulpolprasert et al, 2003; Coulibaly, 2008; Koot, 2005). This is despite the fact that factors that rank highest in workers' preferences and choices of location are precisely those related to the local infrastructure, isolation and working conditions (WHO, 2009).

➤ Inferences drawn from the past experiences of the designing and implementing strategies to address the issue of HRH shortfall have proved that no single strategy can act as a viable solution. Since the problem of human resource crisis can be correlated to a wide range of factors even within one setting, it is important to design human resource policies incorporating a mix of strategies to eliminate each contributing factor.

**Systematic reviews and research projects provide evidences for the extent of success and failure of HR strategies adopted by various countries. Solutions can be designed based on the general principles learnt from other countries but the tailoring these policies to suit the local contextual needs and settings would be essential.**

### **IX. Indian Strategies - Attracting and Retaining Skilled Service Providers in Rural and Difficult Areas**

From 2007 onwards, under NRHM, a slew of measures, were introduced to address the problem of attraction of doctors and nurses to rural postings and then the even bigger challenge of retaining them there. These measures could, in line with international practice, be categorized and discussed in five groups:

- a. Regulatory: Insisting of rural service as pre-qualification to be considered for admission to post graduation courses or bonds which insists on doing rural service after the course.
- b. Workforce management: Transfer policies that provide for rotational posting in difficult areas and give preference to those who would work in a remote area of their own choice.
- c. Incentives- financial and non-financial.
- d. Educational Strategies: Measures to preferentially admit only those students who are likely to serve in under-serviced areas and mould education to retain this commitment.
- e. Multi-skilling existing staff: Introduction of three year course to train rural medical assistants, posting of Ayush doctors.

### **X. Workforce Management and Workforce Environment**

It is increasingly recognized that workforce management policies that increase service provider morale and professional satisfaction would have a major effect in retention of the workforce.

One reform that is known to have a major impact on worker morale is providing for rotational posting in difficult areas so that everyone has to spend some years there after which they could be posted back in an area of their choice. One could also ask for volunteers to work in these areas and give preference to those who would work in a remote area of their own choice. Tamil Nadu implements such a system, and now Orissa, Karnataka, Maharashtra and Nagaland also have implemented this. But as a whole, not enough states have taken this step. Though apparently simple reform measure, in practice given its linkages to basic issues of governance this often proves the most difficult of reforms.

Chhattisgarh state, a pioneer in finding ways of strengthening public health systems, has now developed scheme – Chhattisgarh Rural Medical Core (CRMC) that includes categorization into three zones according to difficulty levels and offering various incentives for each level.

One of the main NRHM strategies meant to address both retention and performance is to make new appointments on contractual terms, usually of one to three years duration. Thus when we stated that about 82,343 staff were added on, almost all of them are on contractual terms. There is a belief that contractual terms of appointment ensure more accountability, less absenteeism, more appropriate postings and therefore on the whole better workforce performance. Permanent employment is believed to have a negative workforce performance effect as labour laws meant to provide job security become a constraint in disciplining the workforce. Again there is no study that supports these strongly held beliefs and most rapid assessments that have looked at this are

skeptical. Since contractual appointment is made to the facility whereas permanent appointment is to a state cadre, prioritising rural and remote postings is likely to be easier. But whether less job security is the key to better performance is an open question.

**Even recruitment policies for the public health workforce can be archaic and completely inappropriate. Given the great demand for government jobs in an under-developed economy, governments had set up elaborate procedures for recruiting into government service that could take over two years from advertisement to appointment. However, now that private markets are booming, and public posts going vacant, recruiting needs to actively attract skills, not to act as gatekeeper.**

State Government of Haryana has taken the lead in this by taking recruitment of regular Medical Officers out of the purview of Haryana Public Service Commission (HPSC). Since 2008 the recruitments are being done by a selection committee – Haryana staff selection commission through walk in interviews conducted on a regular basis which provide entry- not into contractual service like in the other states, but into regular service. Along with the new efficient recruitment process strategies like – (i) Higher compensation packages and incentives to match the packages offered by private sector and meet the opportunity cost of the doctor. (ii) Supportive and regular supervision (iii) empowering doctors with more control over budget for the institutional support. As a result of these strategies there is a massive reduction in the number of vacancies of doctors at public health facilities of Haryana. 825 doctors including 525 specialists were appointed during the year 2008-09. Currently state authorities are able to state claim that there are no vacancies of specialists in the state (Gupta, Sundararaman and Raha, 2009)

NRHM has also intensified in-service training programmes for all health workers, shifting the focus from a routine theoretical training schedule to a more skill based and practical oriented training modules thus providing an opportunity to upgrade the skills and improve the performance of health workers. Training modules for some of the major training programmes based on the current health needs are Trainings for Integrated Management of Neonatal and Childhood Illnesses (IMNCI), RTI Management, Maternal Health and Family Planning etc. were revised. New training modules have also been developed for the Public health management and health information management system for critical human resources especially.

Although it has been well documented that an absence of transparent promotion and transfer policies and non-availability of job descriptions cause a high level of attrition, it was found that not many states have developed a fair HR policy specific to the state's needs so far. Only 4 states of Chhattisgarh, Haryana, Rajasthan and West Bengal have so far revised these policies which are yet to be implemented across the states.

### **(i) Educational Strategies**

Current educational institutions and pedagogy tend to alienate the service provider from the needs of the population. Measures to preferentially admit only those students who are likely to serve in under-served areas and moulding education to retain this commitment is therefore one way forward.

In nursing, midwifery and health worker education, there is much more conscious thinking on adopting this strategy. The pioneer programme in this regard is in West Bengal. The state had to face the challenge of adding 10,000 ANMs within five years, while simultaneously addressing the problem that this state has one of the poorest figures for ANMs staying at their place of work and being available for institutional delivery (Prasad, Gupta and Sundararaman, 2009). The criteria of selection was that the woman should have completed schooling, should have been married (so as to avoid the risk of her leaving the village due to marriage) and that she should be assessed as likely to remain resident in that village due to her family, property and social circumstances. During the process of training her links with her village were maintained and as soon as she

completed training she became an employee of the local government institution as a nurse-midwife. At present over 4000 such ANMs have been given appointment and the first results are very encouraging.

Another note-worthy example of such innovation is the “Swalamban Yojana” (self-reliance plan), launched in state of Madhya Pradesh in the year 2006-07 with the objective of filling the gap of requirement of staff nurses. Women with rural background selected from under-serviced districts are preferably selected and sponsored for the nursing courses. These sponsored students are bonded to serve in the rural area of Madhya Pradesh for 7 years after passing or otherwise they will have to pay Rs.2.00 lakh to Government. The initial response is encouraging though it is still too early to judge.

Chhattisgarh is planning to upgrade a 1000 of its community health workers (known as Mitanins) into ANMs, which in effect would achieve the same as in the west Bengal case study – as generally CHWs fulfill the entry criteria described earlier.

Yet another category of strategies rolled out under the NRHM is alternative service providers–new categories of staff created to overcome the problems of inadequate service providers of the traditional variety. One such strategy is the three year course introduced in Chhattisgarh initially and now in Assam to provide a cadre called rural medical assistants. Chhattisgarh had started a 3 year diploma course – Practitioner in Modern and Holistic Medicine – in the year 2001 which was discontinued in 2008. Around 858 graduates of this course have been employed under NRHM as Rural Medical Assistants (RMA) at the PHC & CHC level in the identified underserved 12 districts of Chhattisgarh (Raha, Sundararaman, Gupta and Rao, 2009). The 3 ½ year diploma course started in 2004 is called as - Diploma Holders in Medicine and Rural Health Care (DMRHC) in Assam. The first batch finished the training in February, 2009 and 92 qualified practitioners had been deployed at the remote, far flung and rural areas of the state after undergoing basic internship at various health care centres in the state. The scope of practice includes providing primary level treatment and preventive health education as per the epidemiological needs of the population residing in the rural areas. These health care providers would cater to the needs of underserved areas and would provide qualified and skilled personnel for the rural population.

#### **(ii) Multi-skilling & Alternative Service Provider Strategies**

Multi-skilling refers to a strategy where existing health personnel trained with one skill set are now provided with skills belonging to another skill set so as to enable them to provide a larger range of skills.

The most important and widespread use of this, is the training of medical officers in the skills needed to provide emergency obstetric care including C- section surgery and to provide anesthesia for supporting emergency obstetric care. This could be further extended to more specialist skill areas.

An extension of this approach is to introduce diplomas and degrees in family medicine as an in-service option such that a wider range of specialist skills can be taught to the basic doctor. This would be invaluable for the rural hospital and secondary health care. This has started up in 5 states. This approach is promising as the only way visible that can close the specialist gaps in all the CHCs.

Another form of multi-skilling is to train and deploy doctors trained for four years in the indigenous streams of ayurveda, unani or siddha or in homeopathy to work as medical officers in primary health centers. This has been used extensively in states like Chhattisgarh, Orissa, Gujarat etc. In practice training to play these revised roles is weak and preliminary studies show that in

allopathic roles they perform poorly. There has also been criticism raised that it breaks with the spirit of mainstreaming indigenous medical systems.

### **(iii) Public Private Partnership**

Another set of measures relate to exploring the potential of “public private partnership (PPP)”, different PPP models include contracting in of specialists for specific tasks or contracting out services to private practitioners in under serviced areas to meet the deficit of infrastructure or manpower in the Public health system.

(a) **Contracting in** - 13 states Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Madhya Pradesh, Manipur, Nagaland, Puducherry, Rajasthan, Tamil Nadu and Uttar Pradesh) are contracting in private specialists to work in the public health facilities either on call basis or as a fixed day approach where private doctors provide health care services on a fixed day of the week e.g ; specialists are paid Rs. 1500 per caesarean section or on part time basis for providing services in public health facilities for 2 hours each day in the state of Haryana while in Manipur Private specialist Doctors will be paid an honorarium of Rs. 25,000 per month for the days they are present at the CHCs against a vacant post of specialists. Studies on its success are not available, but reports indicate that except for some facilities where there are special circumstances – e.g; a retired government specialist wanting to continue with their services- this has little promise as a general measure.

(b) **Contracting Out** - Contracting out of certain health services especially maternal care to a private institution is being implemented in states of Assam, Chhattisgarh, Delhi, Gujarat, Haryana, Jharkhand, Madhya Pradesh, Uttar Pradesh and West Bengal. Under these schemes the cost of care given to the patient is borne by the State Government. These private institutes have attracted many users and improved the service delivery of maternal care. One of the most successful of these schemes is the Chiranjivi Yojana which was launched in the five pilot districts of Gujarat in 2005 and as on October 2008, the scheme has reported 215701 normal deliveries, 15145 C Sections (6.15%) and 15430 complicated cases which is fairly in consonance with international standards of complications. The scheme involves private providers in provision of maternity services through contracting-out and use of voucher mechanism. In return, the state reimburses the physicians approximately 1795 rupees per delivery. State of Orissa has also proposed to introduce a similar scheme this year.

© **Management** - Private sector which mainly comprises of non-governmental organizations (NGOs), donor agencies and charitable trusts have taken up the responsibility of management and up gradation of the infrastructure of some of the public health facilities in about 5 states (Arunachal Pradesh, Assam, Bihar, Meghalaya, Madhya Pradesh, Orissa and West Bengal) as part of the PPP with the states. These NGOs could bring in motivated specialists. So far these have been “niche” solutions for special individuals and situations- and to that extent useful. But their general replicability is not known.

## **XI. Conclusion**

This policy brief broadly establishes that there is indeed a major crisis in human resources for health in India and that this crisis could account for much of the poor performance of the health sector in some states. Even in so called high performing states the human resources are well below international norms and this would affect the range and quality of services provided. The reasons for this crisis are historical and relate to the health sector policies and prescriptions of the last two decades.

**Currently we have much reported information, but few well formulated studies to guide us. In the absence of such evidence based strategisation, there is the real risk that when some of the NRHMs most publicized HR options do not work, it could threaten the whole agenda of strengthening public health systems.**

The private sector penetration being low, it is to the public sector that we must turn for providing access to skilled service providers in most rural areas. Considerable progress has been made under NRHM. The single most important step has been the introduction of the Indian Public Health Standards. But to achieve these standards considerable reforms in workforce management are required, and we are only beginning to work on these.

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