INCREASING THE AVAILABILITY OF SPECIALIST SERVICES IN RURAL INDIA

Prepared for the International Advisory Panel of the National Rural Health Mission, Ministry of Health & Family Welfare, Government of India

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EXECUTIVE SUMMARY

The lack of availability of specialist services, due to both a shortage of specialist doctors in appropriate locations (specifically in the fields of paediatrics, anaesthesia, and obstetrics) and poor infrastructure or management practices, is a pervasive concern throughout rural India. Many strategies have been employed to combat this issue both in India and abroad, including a) attempting to increase the number of specialist training vacancies, b) providing incentives to attract and retain specialists, c) initiating compulsory rural postings, d) engaging in public/private partnerships, e) providing supplementary training to medical officers, f) task-shifting specialist services to nurses, g) creating new cadres of health professionals, and h) using information communication technologies to fill the gap.

Primary research in this study first attempts to examine the contributing factors to the low availability of specialist services within the local context of the ten surveyed districts and from state- and nation-wide insights. Data indicates that the key causal factors are insufficient number of sanctioned positions, private sector pull from public sector human resources, inappropriate location postings of specialist doctors, absenteeism, lack of confidence, and poor infrastructure. The problem is multifaceted, spanning human resource and governance issues.

During primary research, through qualitative discussions with 394 respondents in total, the viability and benefit of potential mitigating strategies were explored. Several ideas, such as creating new cadres of professionals, re-hiring retired specialists, engaging visiting doctors from higher level facilities, task shifting, and mobile camps were deemed either unsuccessful in the past or not desirable for the future.

Based on assimilation of findings from literature and primary research, a set of eight recommendations are put forth in this paper for consideration as strategies to improve the availability of specialist services in rural India. These strategies are discussed in detail in the paper and are outlined below:

<table>
<thead>
<tr>
<th>Programmatic</th>
<th>Short-Term</th>
<th>Medium and Long Term</th>
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|              | • Improve the effectiveness of supplementary training programs for Medical Officers  
• Initiate targeted infrastructure improvements | • Explore use of information communication technologies  
• Improve monetary and non-monetary incentive structure for specialist doctors in rural public service |
| Policy       | • Create mechanisms for rational deployment and placement  
• Implement accountability mechanisms and improve enforcement of regulations | • Consider mandatory rural postings for post-graduates  
• Increase number of post-graduate seats in medical colleges |

India has made some efforts to ensure that populations in rural settings have access to specialist services. However, significant advancements and amendments to existing strategies are required to ensure state-wide and nation-wide successes that are yet to be seen.
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ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>ANC</td>
<td>Antenatal Care</td>
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<tr>
<td>ANES</td>
<td>Anaesthesia/AAnaesthetist</td>
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<td>ANM</td>
<td>Auxiliary Nurse Midwife</td>
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<tr>
<td>BEMOC</td>
<td>Basic Emergency Obstetric Care</td>
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<td>CEMOC</td>
<td>Comprehensive Emergency Obstetric Care</td>
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<tr>
<td>CHC</td>
<td>Community Health Centre</td>
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<td>CHW</td>
<td>Community Health Worker</td>
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<td>DH</td>
<td>District Hospital</td>
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<td>FP</td>
<td>Family Planning</td>
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<td>GYN</td>
<td>Gynaecology/Gynaecologist</td>
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<td>HF</td>
<td>Health Facility</td>
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<td>ICT</td>
<td>Information and Communication Technologies</td>
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<td>IMR</td>
<td>Infant Mortality Rate</td>
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<td>JSY</td>
<td>Janani Suraksha Yojana</td>
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<td>MCH</td>
<td>Maternal and Child Health</td>
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<td>MDG</td>
<td>UN Millennium Development Goals</td>
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<td>MMR</td>
<td>Maternal Mortality Rate</td>
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<td>MoHFW</td>
<td>Ministry of Health and Family Welfare</td>
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<tr>
<td>MO</td>
<td>Medical Officer</td>
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<td>MOI/C</td>
<td>Medical Officer in Charge</td>
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<td>NFHS</td>
<td>National Family Health Survey</td>
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<td>NRHM</td>
<td>National Rural Health Mission</td>
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<td>OB</td>
<td>Obstetrics/Obstetrician</td>
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<tr>
<td>PED</td>
<td>Paediatrics/Paediatrician</td>
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<tr>
<td>PHC</td>
<td>Primary Health Centre</td>
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<td>PSP</td>
<td>Private Sector Practitioners</td>
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<td>SP</td>
<td>Specialist Doctor</td>
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<tr>
<td>SC</td>
<td>Sub Centre</td>
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<tr>
<td>TMO</td>
<td>Specialist Trained Medical Officer</td>
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SECTION 1: BACKGROUND AND OBJECTIVES

This paper is third in a series of four research papers commissioned by UNICEF India. The accompanying three papers examine: (a) the performance of ASHA, and recommendations for enhancing ASHA recruitment and training, streamlining responsibilities, increasing supportive supervision and incentivisation, and providing opportunities for career development; (b) the current state of integration between health and nutrition programming in the country, and potential strategies for further convergence at levels of state policy, district management, facility care, and community outreach; and (c) strengthening skilled birth attendance at the primary level by achieving greater coverage and enhances linkages in the continuum of care. These four papers were intended to inform advocacy efforts on behalf of UNICEF India and The Earth Institute during policy and strategy development with the national Ministry of Health and Family Welfare (MoHFW) and state health departments.

This paper aims to examine opportunities for increasing the availability of specialist services in rural India by exploring relevant best practices in India and internationally, and by conducting primary research to assess strategies that have been employed across India to address the shortage of specialist services. Strategies explored within this paper include policy changes, human resource management strategies, provision of additional training, public-private partnership models, and innovative uses of technology. Based on analyses of secondary and primary data, the paper will suggest recommended strategies that will be useful in advocacy efforts at the state and national levels for increasing the availability of specialist services.

SECTION 2: INTRODUCTION

With a population of 1.1 billion people, India has a doctor to population ratio of 1:1600 or 6 doctors per 10,000 populations (Sundararaman & Gupta 2010). India was ranked 98th out of 144 countries in its physician to population ratio (WHO 2008) lagging far behind the international norm of 1:1000 (WHO 2006). Nested within the significant issue that India faces in the severe shortage of medical doctors is the even greater lack of availability of specialist services. In this paper, we refer to specialist services specifically in the area of Paediatrics, Anaesthesia, or Obstetrics and Gynaecology. It is both a shortage of human resources (specialist doctors with a post graduate medical degree in these specific areas) as well as the physical inability of health infrastructure to provide child-specific and comprehensive emergency obstetric care.

The unavailability of specialist services and the inability of the health system to cope with complicated cases is often the cause of maternal and child deaths. Highlighting India’s current status in the global context, India bears the largest burden of maternal deaths in the world with 75,000 total annual deaths. This is about 20% of the worldwide burden and India’s progress in maternal health will determine whether the world can meet the 5th Millennium Development Goal (MDG 5). Between the years of 1990-2005, India has reduced its maternal mortality by a meagre 1.8% (Goldie et al. 2010). Only 26.5% of women in India have a full ANC (CES 2009) and it is unlikely that the country will meet its MDG targets by 2015 (Table 1 below).

1 These doctors would have completed a 5 year MBBS degree as well as a specialised -3 year MD in their respective disciplines
2 Goal 5: Improve maternal health; Target 5a: Reduce by three quarters the maternal mortality ratio; Target 5b: Achieve, by 2015, universal access to reproductive health; MMR MDG target for India: 109/100,000 live births
The leading causes for maternal mortality in India have been identified as haemorrhage, sepsis, obstructed labour, complications arising during abortion, and hypertensive disorders (Paul et al. 2011). Haemorrhage accounts for 37% of these deaths and appropriate management of this condition should include access to emergency transfusion, anaesthesia, and a blood bank with coordination among obstetricians and nurses (Walfish et al. 2009). Obstructed labour accounts for 5% of the deaths and while ultimately tackling the problem of obstructed labour will require universal adequate nutritional intake for women from childhood; a vital interim step is to increase the ability to access sufficiently equipped and staffed clinical facilities when problems arise in labour (Neilson et al. 2003).

Unsafe abortions account for 9% of maternal deaths in India (MoHFW 2003), while they account for 18% of global maternal deaths (WHO 2008b) and 6% of maternal deaths in Asia (Khan et al. 2006). Unsafe abortions deserve special attention in India as this cause of maternal death is more common here than in much of the world (UNFPA 2008). Access to specialist services (particularly anaesthetic and obstetric services for C-sections) is essential to reducing these figures and at present, an estimated 6.7 million abortions per year are performed in other than registered and government recognised institutions, often by untrained persons in unhygienic conditions (CEHAT 2004). While the rationale for utilizing unqualified providers is to be explored, it likely accounts for both supply side and demand side issues.

The child mortality figures in India indicate that over 50% of under-5 deaths take place during the neonatal period where the primary causes of death are infections (including sepsis, pneumonia, diarrhoea, and tetanus), prematurity, and birth asphyxia. Addressing these presentations in neonates is crucial to reducing death during this period.

Increasing availability of specialist services relies heavily on the ability of the population to access personnel or facilities offering these services. Goldie et al. (2010) reviewed the cost effectiveness of different strategies to combat maternal mortality in rural India and found that strategic interventions include, in addition to an adequate supply of skilled providers, functional referral transport and equipped facilities for EmOC. While improving access to and infrastructure for specialist services are as important for the reduction of preventable maternal and child deaths that are caused by complications; this paper will focus on increasing the availability of specialist services provided through the public health system in rural India and increasing the availability of specialist doctors in rural areas.
SECTION 3: REVIEW OF LITERATURE

Primary Healthcare in Rural India

A majority of the Indian population (68.84%) lives in rural areas and the Government of India made meeting their health needs a priority with the launch of the National Rural Health Mission (NRHM) in 2005. It was launched under the National Common Minimum Programme and committed to increasing health expenditure from 0.9% of GDP to 2-3% over seven years (2005-2012). The goal of the NRHM was to increase both access to and quality of health services while targeting the poor, the rural population, and women and children. Its primary goals include reduction in maternal and infant mortality with a focus on strengthening health infrastructure (MoHFW 2005). Furthermore, the 12th five-year plan developed by the Planning Commission has significant projections for NRHM as well as for the expansion to the National Urban Health Mission (NUHM). First, this plan aims to raise the total health expenditure to 2.5% of GDP by 2017. Second, the 12th plan seeks to expand strategies in health beyond the original focus of NRHM of childbirth, prenatal and postnatal care to a more comprehensive vision that includes preventive and curative services more broadly. In other words, the plan aims to achieve convergence among all existing national health programs, including those related to chronic and infectious diseases. Overall, the 12th plan’s focus on comprehensive and universal healthcare suggests an optimistic future for the provision of healthcare in India.

At present, the rural healthcare system in India comprises the following four levels (Figure 1). The Sub Centres (SCs)3 are the first point of contact between the rural population and primary healthcare system after which the community turns to a Primary Health Centre (PHC)4 where a medical officer is available. The Community Health Centres (CHCs) constitute the secondary level of health care and are designed to provide referral as well as specialist health care to the rural population. CHCs also provide facilities for obstetric care and specialist consultations.

3 The main services rendered at SCs include providing services related to maternal and child health, family welfare, nutrition, immunization, diarrhoea control and control of communicable disease programmes and bringing about behaviour change.
4 The focus of a PHC is on integrated preventive and curative care and it is also the site for conducting normal deliveries.
The Indian Public Health Standards (IPHS 2012) were developed under the NRHM and establish benchmarks of health infrastructure including building, manpower, equipment, drugs, and quality assurance through the introduction of treatment protocols. The IPHS have lain out that all CHCs should be upgraded to First Referral Units (FRUs) to handle emergency obstetric cases. The ones already upgraded have been supplied with necessary equipment and kits enabling them to provide facilities for emergency obstetric surgery, blood transfusion, specialist paediatric care, and facilities for Medical Termination of Pregnancy (MTP), tubectomy, and vasectomy. The services provided at FRUs constitute BEmOC and CEmOC services among others, and encompass the activities this paper refers to as ‘specialist services’.

The highest level of primary healthcare system is the district hospital, which, on average, is 300-bedded and is sanctioned to have 11 specialists- 3 paediatricians, 3 obstetricians/gynaecologists and 4 anaesthetists.

**Low availability of specialist services in rural India**

There is a national shortfall of 46% paediatricians; 49% obstetricians and gynaecologists; and 63% anaesthetists in CHCs across the country (MoHFW 2011). In addition to the shortfall of over 2,500 gynaecologists and more than 3,000 paediatricians, there is also a significant gap between the required number of specialists and the sanctioned number (Table 2). Sanctioned specialist posts differ from the number of required number of specialists as positions are not adequately allocated as per population norms and therefore lag much behind the IPHS norms. For instance, in the high performing district of Vellore, even with zero vacancies against the sanctioned positions, the district needs to increase specialist posts by 39% to fulfil IPHS norms (PHFI and World Bank 2008).

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5. District hospitals can vary in bed strength from 100-bedded to 500-bedded depending on the size of population they serve.
6. After discussions with National stakeholders at NHSRC, it was confirmed that there is no published data on the country-wide availability of specialists at the District Hospital level.
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Table 2: Shortfall of Ob/Gyns and Paediatricians in CHCs across India (NRHM, March 2011)

<table>
<thead>
<tr>
<th>Speciality</th>
<th>Required (R)</th>
<th>Sanctioned (S)</th>
<th>In position (P)</th>
<th>Vacancy (S-P)</th>
<th>Shortfall (R-P)</th>
</tr>
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<tbody>
<tr>
<td>Ob/Gyn</td>
<td>4809</td>
<td>1958</td>
<td>1389</td>
<td>915</td>
<td>2682</td>
</tr>
<tr>
<td>Paediatricians</td>
<td>4809</td>
<td>1731</td>
<td>1041</td>
<td>849</td>
<td>3029</td>
</tr>
</tbody>
</table>

The human resource for health crisis in rural areas has been attributed to both migrations of doctors to urban areas, and to the private sector (Wibulpolprasert and Pengpaibon 2003). In India, 74% of graduate doctors live in urban areas, serving only about 30% of the population while the remaining 70% of the rural population remains largely un-served by an allopath (TFoME7 2006). For instance, while there are 22,000 registered obstetricians in the country, less than 1300 work in government hospitals in rural areas (Vora et al. 2009). The services-gap left by weak health systems in public facilities is being filled by a huge informal and unqualified private sector (Narayana 2006).

The low availability of specialist services in the field of maternal and child care in rural India is caused by two distinct issues which are highlighted in Figure 2; first is the physical shortage of specialists (reasons indicated in Figure 2) and second is the lack of infrastructure and poor health management that results in poor or inadequate service delivery. The factors listed below are gleaned from the literature and are supported by findings from primary research discussed in subsequent sections.

Figure 2: Factors responsible for the low availability of specialists in rural areas

A shortage in the number of government medical colleges and specialist training seats contributes to the supply-side issue. As of 2009, there were were only 104 recognised colleges with 801 seats in the country offering courses in obstetrics and gynaecology; 105 with 622 seats in paediatrics; and 106 with 852 seats in anaesthesiology.8

Migration and low motivation due to poor working and living conditions as well as poor salary structure also contribute to a lack of available specialist doctors practicing in the rural public health setting. In most low and middle income countries low salaries in the public sector coupled with a burgeoning private sector has led to many specialists charging patients fee-for-service privately (Jumpa 2007). This ‘dual practice’ among specialists in rural areas has several adverse effects on the public healthcare system that include- lower quality of care, absenteeism, inefficiency, lack of motivation and corruption (Ferrinho 2004). To prevent and discourage private practice countries have employed a host of strategies- imposing a complete ban on private practice, putting

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7 Task Force on Medical Education
8 Medical Council of India: http://www.mciindia.org/InformationDesk/ForStudents/ListofCollegesTeachingPGCourses.aspx as in April 2012.

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restrictions on private sector earnings, providing incentives for exclusive public practice, raising public salaries, or allowing a limited amount of private practice (Kiwanuka et al 2010). In India, some state governments have banned private practice by government doctors only to face varying levels of opposition by both individuals and physicians’ groups. Weak monitoring and inadequate enforcement has led widespread dual practice (Berman 2004). Other states introduced a Non-Practicing Allowance (NPA) whereby public doctors were given an allowance in addition to their monthly salaries to discourage them from private practice.

Another issue that the Indian primary healthcare system grapples with is irrational deployment- the disorganized placement of staff (for example, a gynaecologist in a facility without an anaesthetist or vice versa). This further perpetuates the low availability of specialist services in rural areas.

Even if a district or state produces the required number of doctors, there need to be mechanisms in place that can control their migration out of the public sector or incentivise their return to rural service. The section below highlights some strategies that have been implemented in different regions to increase the availability of specialist services.

**Best Practices**

Many states within India and comparable countries around the world have tried to mitigate this shortage of specialist services by putting in place innovative strategies that should be studied to implement and scale-up in India. Most of these innovations can be grouped under the following categories: increasing the number of specialists produced, incentivising specialists to work in rural areas, compulsory rural postings or rural rotations, public private partnerships, skill up gradation of health personnel, task shifting, creating new cadres of health care providers and the use of Information and Communication Technologies (ICT). Some best practice models from India and abroad are outlined below and examples of each strategy are summarised in Table 3.

<table>
<thead>
<tr>
<th>Strategies for increasing availability of specialist services in rural public health facilities</th>
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<tbody>
<tr>
<td>1. Increasing the number of trained specialists</td>
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<td>2. Monetary and non-monetary incentives</td>
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<td>3. Compulsory rural postings/rotations</td>
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<td>4. Public-private partnerships</td>
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<td>5. Skill up gradation and supplementary training</td>
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<td>6. Task shifting</td>
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<td>7. Creating new cadres</td>
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<td>8. Use of Information Communication Technologies</td>
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**Incentives**

The state of Rajasthan, in an attempt to improve provision of emergency obstetric care has taken serious steps to strengthen service delivery in FRUs. A performance based incentive strategy is being tested. There is a per-case benefit for the team of doctors offering their services for caesarean sections. Monetary incentives for the medical team conducting more than five caesareans at FRUs are set at: Rs. 10,000 for conducting 6 to 10 caesareans and Rs. 20,000 for conducting more than 10 caesareans. While financial incentives are intended to and can succeed in motivating and improving performance, negative outcomes such as over-treating (e.g. performing a caesarean when not
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medically needed) are also a possible perverse effect that must be considered (Dielemen et al. 2009).

Public private partnership

States like Gujarat and Madhya Pradesh have engaged with the private sector with significant success to offset the shortage of specialists in the public sector. The Chiranjeevi scheme in Gujarat was an innovative public-private partnership model piloted in five remote and under developed districts in Gujarat in 2005 and subsequently expanded to the entire state. Under this scheme the health department contracted private obstetricians who had the capacity to provide EmOC services\(^9\) to accept referrals of families covered under the scheme. The scheme aims to provide obstetric care to poor families free of cost and has a re-imbursement mechanism for transport and opportunity costs built into it.

The scheme was independently evaluated after the pilot-phase but no impact evaluation of the scheme is publicly available after the state wide scale-up. During the pilot, after 10 months of implementation of the Chiranjeevi Yojna, institutional deliveries increased from 38-59% in the intervention districts (Bhat et al. 2006). On average about 70-80 maternal deaths and 350-450 infant deaths would take place in these districts, however, during the 10 months of implementation, no maternal deaths and only 13 infant deaths took place. Between April 2007 and September 2008, the coverage of deliveries under the scheme increased from 27-53% (Mavalankar et al. 2009). Since the inception of the scheme, MMR in the intervention districts had fallen to 10% of what it would have been in its absence. Similarly, it was estimated that 7,165 neonatal deaths had been averted due to the implementation of the Chiranjeevi scheme. While early discussion suggests that the scale-up did not yield the intended results, data from scale-up impact evaluation is awaited this model aims to highlight the potential of engaging with the private sector to increase availability of services to populations that were previously unserved.

The Janani Sahyogi Yojna in Madhya Pradesh is also a public private partnership where private hospitals render safe motherhood and child services to families living below the poverty line. The selection of private hospitals for accreditation is based on strict criteria that aim to ensure the provision of quality maternal and childcare\(^10\). The government reimburses the accredited hospitals for each service provided\(^11\). For instance, a normal delivery is reimbursed at Rs. 800 per delivery and a C-section is reimbursed at Rs. 4530. An assessment of the scheme in 4 districts in the state found that while a vast majority of the Private Sector Practitioners (PSPs) fulfilled the criteria for mandatory infrastructure, they were still located primarily in urban areas (Nandan et al. 2008). Despite this drawback of poor rural distribution, all PSPs had the triage of a paediatrician, gynaecologist and anaesthetist\(^12\). Before the implementation of this scheme there were hardly any families from below the poverty line who availed of services provided at a private facility. A direct and tangible impact of this scheme has been that BPL deliveries have increased to more than 1/3rd of all institutional deliveries within one year of implementation of this scheme.

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\(^9\) Contracts were offered to private obstetricians who met the following criteria: a postgraduate qualification in obstetrics; their own hospitals, preferably with at least 15 beds; labour and operating rooms; able to access blood for transfusions; able to arrange anaesthesiologists and emergency surgery.

\(^10\) Selection criteria for the private hospitals include: presence of a gynaecologist, paediatrician and anaesthetist; minimum bed strength of 20-30 beds but 10-12 is acceptable for isolated and remote locations; fully equipped and functional operation theatre, labour room, new born care unit, pathology laboratory, blood storage unit and ambulance; uninterrupted power supply and running water; capabilities to conduct safe caesarean sections and medical termination of pregnancy

\(^11\) Re-imbursement rates: Normal delivery- Rs.800; MTP- Rs.300; C-section- Rs.4530; blood transfusion- Rs.500; baby warmer- Rs.50; photo therapy- Rs.50; paediatric care- Rs.50; and low birth weight/pre term- Rs.250

\(^12\) One accredited facility in the sample lacked an anaesthetist but had a paediatrician and gynaecologist
Tamil Nadu increased availability of specialist services in the state by allowing FRUs to hire retired or private practice anaesthetists on a per case basis. These anaesthetists were paid Rs. 1000 per caesarean section conducted and an additional Rs. 100 for conveyance. While in 1998-99, only 19% of FRUs in the state conducted more than 10 caesarean section deliveries a month, after the implementation of this scheme (2003-04) more than 30% of FRUs were conducting more than 10 C-sections in a month (Padmanaban et al. 2009).

**Supplementary technical training**

In Bangladesh, the health ministry opted for skill upgradation of health personnel to meet the shortage of specialists. The Women's Right to Life and Health project in Bangladesh was conceived to reduce maternal mortality and morbidity in the country through the provision of basic and comprehensive emergency obstetric care (BEmOC/CEmOC). The program developed a 17-week competency-based training module for teams of medical officers and nurses. With this accelerated human resource development there was a marked increase in the facilities offering emergency obstetric care (Islam et al. 2006). At the baseline in 1999, only 35 district hospitals and 3 sub-district hospitals were offering CEmOC, while 33 sub-district hospitals were providing BEmOC. In 2004, these numbers rose to 53, 70 and 35 facilities respectively and substantially increased the availability to specialist services in the country (Dewan 2007). It is important to note, however, that research linking the improved and increased provision of BEmOC and CEmOC to improve maternal and neonatal outcomes is scarce.

In India too, short competency-based supplementary training courses for medical officers have been introduced by the MoHFW which include Life Saving Anaesthetic Skills (LSAS) for Emergency Obstetric Care (18 weeks), Comprehensive Emergency Obstetric Care (CEmOC) in rural India (16 weeks) and a short training course in paediatrics that is still being developed. More research is required to assess the impact of trained MOs on maternal health outcomes but anecdotal evidence suggests that these trainings are increasing management of complications on site and helping to mitigate the human resource shortage in these speciality areas.

**Task shifting**

Certain models in the world have experimented with task shifting where they provided additional training to nurses to equip them with the skills required to render emergency obstetric care to patients. Nepal has instituted policies to allow midwives and nurses to perform more EmOC procedures. For the last 3 years, the government\(^\text{13}\) has been training midwives to manage most complications of pregnancy and childbirth. Institutional deliveries have increased from 3.8% to 8.3% and met need for EmOC services increased from 1.9% to 16.9% (Shreshtha et al. 2003).

The Democratic Republic of the Congo reports on the experience of a missionary hospital program in which locally recruited and trained midwifery personnel received carefully supervised training to perform caesarean sections. Some 300 procedures were carried out during the study period with very low complication and death rates, comparable to the rates seen with procedures performed in the same setting by physicians. The surgery training for nurses and midwives was carried out in two hospitals in northwestern DRC. At both hospitals- Karawa and Wasolo- nurse-surgeons performed most of the caesarean sections, with a low fatality rate that was not due to selection of uncomplicated cases. Moving away from the comparison between doctors and non-physicians, this case study highlights the crucial contribution of non-physicians in providing emergency obstetric

\(^{13}\) With help from the British Department for International Development (DFID), the United Nations Children’s Fund (UNICEF), and the Averting Maternal Death and Disability (AMDD) Program based at Columbia University, New York, NY
care in a setting where their absence would have led to the death of all the referred 16 women (Matendo et al. 2011).

**New cadres of skilled personnel**

Five countries in Sub-Saharan Africa use non-physicians to perform major emergency obstetric surgery. Mozambique combated the shortage of specialists by creating a new cadre of health professionals- técnicos de cirurgia or health technicians who undergo two years of surgical training. Tanzania created a model with two distinct categories of non-physicians- clinical officers and medical assistants. While clinical officers are permitted to diagnose and prescribe medicines, medical assistants are specifically trained for obstetric surgeries like C-sections.

In Mozambique, non-physicians (técnicos de cirurgia- TCs) have been conducting obstetric surgery for the past two decades. Trainees have two years of clinical surgical training at the Central Hospital in Maputo, followed by a yearlong internship with qualified surgeons and obstetricians at provincial hospital. The main focus of the training is on emergency obstetric care and trauma. A study on their importance in the health system (Kruk et al. 2007) found that the lifesaving skills of this cadre, the reductions in patient referral and the diminished costs for patients made this an essential class of health professionals in the country. 57% of the major obstetric surgeries performed at district level were conducted by TCs, as were 92% of all operations (Pereira et al. 2007). Furthermore, after 7 years, while none of the medical doctors remained at the district hospital, 88% of the TCs were still present at their posts.

Even in Tanzania, medical assistants are conducting more than 85% of the obstetric surgeries in district hospitals (McCord et al. 2009). Studies comparing results of obstetric operations conducted by medical officers and assistant medical officers, found no significant differences in outcomes, risk indicators or quality of care indicators. As of 2009, there were 1300 medical assistants delivering care in Tanzania with 200 new assistants swelling the workforce annually. A key note of consideration is that these trained medical assistants could not leave Tanzania as their training was not recognized elsewhere, and therefore this did not lead to the adverse effect of ‘brain drain,’ or the migration of skilled staff away from rural areas or the country as a whole.

The NGO SEARCH in the rural district of Gadchiroli in Maharashtra piloted an innovative training model to tackle high rates of neonatal mortality in the region. They trained a team of local rural women to provide specialist paediatric care or manage basic neonatal complications such as sepsis, asphyxia and pneumonia at the household level in their community. In addition to the training, these rural women were provided with portable kits that could be used in a domiciliary setting. A review team (Bang et al. 2005) reported that the intervention district saw a reduction in the NMR from 62/1000 live births in 1993 to less than 30/1000 live births in the space of seven years. The model is currently being scaled up in twenty districts in Andhra Pradesh and seven districts in Karnataka. It has been included in Government of India’s eleventh five year plan and ASHA training modules six and seven in sixteen states under NRHM.

A summary of these schemes can be found in Table 4 below.
Unsuccessful Strategies

While addressing the health workforce crisis, several countries have taken steps that have compounded the crisis rather than alleviate it. Shortage in numbers, skill-mix imbalances, poor geographical distribution, and deficient personnel management have all contributed to the low availability of specialist services in rural areas (Egger et al 2000). The section below outlines some specific cases where the unavailability of specialist services was compounded by a poor choice of strategies.

Some countries have focused on producing expensive and less cost effective cadres of health professionals. These expensive cadres have been unable to provide the services they were intended to, due to a rigid and inflexible policy environment. For instance, until recently, Zambian law limited prescription of medicines and any type of invasive surgery to doctors and clinical officers. Excluding nurses from this gamut of care resulted in a complete lack of service provision in rural health centres that were marked by long lines of patients. With the shortage of doctors and clinical officers, task shifting was crucial and in 2001, the Zambian law was amended to authorise nurses to prescribe and to insert dips (WB, UNICEF and WHO 1999).

Another flawed strategy in the health service delivery system in many African countries is the use of medical practitioners as district health officers (DHOs) dispensing management functions. Even when a specialist doctor is based in a district, (s)he is primarily involved in administrative functions including frequent travel to the central ministry of health to report on the status of the district. These administrative responsibilities severely restrict access to their speciality skills during office hours (USAID 2003). A similar staffing structure is present in India where specialists often function as both medical & health officers, which compels them to divide their time between clinical work and administrative functions.

In many developing countries, certain ‘push factors’ or internal causes result in professionals, including specialists, to leave the country. The primary reasons for the out-migration of specialists include political instability, unemployment and uncompetitive remuneration (Meyer 2004). In the case of Ghana, as of 2001, nearly half of the teaching staff of the Medical School, University of Ghana, had migrated out of the country crippling the medical education of future generations of doctors and in turn depriving the population of adequate health care (El-Khawas 2004). All round economic, political and social reforms in combination with stricter anti-corruption laws are needed to make the environment conducive for professionals to remain in their home country (Schmid 2004).
Table 4: Best practice models for increasing rural availability of specialist services

<table>
<thead>
<tr>
<th>Country</th>
<th>Concept</th>
<th>Strategy details</th>
<th>Impact</th>
<th>Key considerations for scalability in India</th>
</tr>
</thead>
</table>
| **Incentive Methods for Hiring and Retaining Specialists** | **Performance-based incentives**               | Monetary incentive for caesareans  
- Incentive money for surgeon team conducting more than 5 caesareans at FRUs  
- For conducting 6 to 10 C-sections, Rs. 10,000  
- For conducting more than 10, up to Rs. 20,000 | No State-wide impact analysis has been carried out, however, discussions with State level personnel suggest:  
- The incentive allowed many of the existing FRUs to become functional  
- No new specialists have been recruited | Can serve as perverse incentive for C-sections  
Will require improved monitoring and evaluation systems |
| Rajasthan, India             | **Outsourcing EmOC to private practitioners - voucher system** | Contracting private obstetricians  
- Private obstetricians with their own hospitals equipped with EmOC facilities selected and accredited  
**Appropriate re-imbursement package**  
- Obstetricians were expected to provide skilled care to poor women, including comprehensive EmOC free of charge  
- The obstetricians are reimbursed Rs. 179500 for 100 deliveries by the government  
- The re-imbursement rate for complicated deliveries is higher than that for normal deliveries but the incidence for caesarean deliveries and other complications is assumed fixed | During the pilot phase of the scheme (Jan '06 to Dec '08) in 5 districts:  
- 536 maternal lives likely to be saved  
- 7615 new borns likely to be saved  
Data is limited on post-scale-up evaluation of scheme, and should consider its impact on:  
- IMR/MMR/NMR  
- Poorest beneficiaries (out of pocket expenditures, availability of referral transport etc.)  
- Willingness of private providers to render services included in scheme  
- Increase in rate of C-sections | Evaluation data is required  
Strong regulation of contracted private practitioners required  
Only feasible in districts/states where there is a burgeoning private sector which can be tapped  
State/district vigilance committee should be formed for monitoring |
| **Public Private Partnerships** | **Gujarat, India (Chiranjeevi scheme)** | **Integrating EmOC services into pre-existing ones** | Deploying a team  
A team of two MOs+ 2FWVs\(^{15}\)  
**Core Training**  
1 year apprenticeship training (Ob-gyn and anaesthesia provided)  
**Practical Training**  
17 week competency based team training (MO, anaesthesia provider, midwife) | From 1994 to 2006  
- Facilities offering BEmOC increased from 90 to 200; serving a population of 0.66m vs. 1.2m per facility  
- Facilities offering CEmOC increased from 30 to 191; serving a population of 0.64m vs. 3.6m per facility  
- With the new training module, the country was annually able to produce 178 MOs trained in Ob/Gyn and 151 MOs trained in anaesthesia | Goal should be defined as an apprenticeship programme  
Clearly defined level of facility where apprentices will be posted and skills optimally utilised must be specified |

\(^{15}\) FWV: Family Welfare Visitors
<table>
<thead>
<tr>
<th>Country</th>
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<th>Strategy details</th>
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<tr>
<td><strong>Task Shifting – Nurses Providing Basic Obstetric and Paediatric Care</strong></td>
<td></td>
<td>Types of trainings (duration)</td>
<td>Number trained in:</td>
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<td>Nepal</td>
<td>Delegating provision of EmOC services to health cadres other than post graduate doctors</td>
<td>- Nurse, ANM: Competency-based midwifery refresher (30 days)</td>
<td>- Midwifery refresher: 109</td>
<td>- Gender component in doc vs. nurse (patient perception; doctor/nurse interaction)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Doctor, Nurse: Competency-based basic EmOC (6 weeks)</td>
<td>- BEmOC: 19</td>
<td>- Quality control regulation in nursing schools (especially if private sector is contracted)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Medical Officers: Competency-based comprehensive EmOC (17 weeks)</td>
<td>- CEmOC: 2</td>
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<td>Improvement from baseline:</td>
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<td></td>
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<td>- Complications treated in 2000 increased from 148 to 1421 in 2004</td>
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<td></td>
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<td>- Inst. delivery up from 3.8% to 8.3%</td>
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<td></td>
<td></td>
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<td>- Met need for EmOC services increase from 1.9% to 16.9%</td>
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</table>

| **New Cadres of Health Care Providers** |                                                                        |                                                                                                          |                                                                                                         |
| Tanzania                     | Medical assistants                                                    | Clinical officer                                                                                        | There are now more than 1,300 surgically trained assistant medical officers working with 5,000 clinical officers. Most assistant medical officers are assigned to district hospitals | Clinical officers can be compared to states which have RHPs.                                              |
|                             |                                                                        | Secondary school graduates with three years of medical training. They are qualified to diagnose and write prescriptions, to practice obstetrics, and to do minor surgery, but not caesarean sections. |                                                                                                         | Evaluation of RHPs is needed to determine value of scaling up RHPs country-wide.                         |
|                             |                                                                        | Medical Assistant                                                                                        |                                                                                                         |                                                                                                         |
|                             |                                                                        | Selected by recommendation and examination from practicing clinical officers. They receive another two years of clinical training, including three months of surgery and three months of obstetrics, during which they are expected to have done at least five C-sections |                                                                                                         |                                                                                                         |

| **The Use of Information and Communication Technologies** |                                                                        | Types of data collected                                                                                   |                                                                                                         |                                                                                                         |
| Madhya Pradesh, India (Gunawat and Dhar districts) | Voice-based system supporting voice biometric and voice based data entry | Voice Net is a Personalized Voice based Information Retrieval and Transaction System (PVIT) that enables remote voice based data collection and viewing of real time data on a web portal. Use in AWCs | The system is capable of recording height and weight of the mother and child and calculating the total number of supplementary nutrition packets to be given 172 breakfast packets and 674 lunch packets have been distributed to beneficiaries during the pilot period | Intensive training and supervision required                                                                 |
|                             |                                                                        | Use in AWCs                                                                                               |                                                                                                         | Using simple phones for data collection has great potential in India as 59.2% of households in India use mobile phones. |
|                             |                                                                        | - Enables remote data gathering at low cost using mobile phones                                         |                                                                                                         | Digital data collection brings transparency and authenticity to the data                                  |
|                             |                                                                        | - Mothers were enrolled in the system using voice and children were registered under ID #.               |                                                                                                         |                                                                                                         |

16 Though this particular model relates more to nutrition care for mothers and children and not specialty care, there are limited models available for the use of ICT specifically and this model attempts to show an example of progress that has been made in the use of ICT in the area of MCHN upon which the field can build on to move towards increased use of ICT for doctor-patient interaction.

17 Census of India 2011
SECTION 4: METHODOLOGY

Overview
A field survey of Staff Nurses, Medical Officers, Specialist Doctors, and District and State Health Administrative Personnel was undertaken to collect data regarding current issues on the availability of specialist doctors (in paediatrics, gynaecology, and anaesthesia) as well as their perceptions surrounding potential solutions for increasing the availability of these specialist services in rural India. The purpose was not to generate a comprehensive dataset for inter-district or inter-state generalizations and comparisons, but rather to gain information on the problem and potential strategies that are not available from secondary sources.

Five high-focus NRHM states were selected for regional sampling: Assam, Bihar, Madhya Pradesh (MP), Rajasthan (Raj), and Uttar Pradesh (UP). The selected states are among the poorest and most populated states in the country. Two districts in each state were selected for variability in geography and health indicator performance. The same districts were also sampled for our accompanying paper about increasing the availability of skilled birth attendance in rural India. Within each district, a sample of health workers was selected across blocks and health facility level; at any given facility, not more than one health worker of a given cadre was selected.

Method
Questionnaires were developed for cadres of health workers and district health officials. Questionnaires were administered individually and confidentially, and translated into Hindi by interviewers. Responses were captured in the questionnaire format, including qualitative notes from discussions. State and national-level interviews were conducted with programming staff in NRHM and non-governmental organizations, trainers, and content area experts. Semi-structured interviews were conducted by phone and coded by theme.

Sample
Respondents for the primary data collection spanned from Primary Health Centre, Community Health Centre, District Hospital, and District Administration Levels. The sample included General Nurse Midwives (GNMs), Medical Officers (MOs), Medical Officers who have received supplementary training in paediatrics, obstetrics, or anaesthesia (TMOs), and members of the district health administrative team including Chief Medical Officers (CMOs) or District Programme Managers (DPMs) (Table 5). Tables in the results section abbreviate each district in sub-headings with the first two letters of the district name, for purposes of chart readability.

---

18 All states surveyed are NRHM high focus states; with the exception of Assam all states are also Empowered Action Group (EAG) states.
## Table 5. Sample Size

<table>
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<tr>
<th></th>
<th>Dhubri</th>
<th>Morigaon</th>
<th>Jehanabad</th>
<th>Samastipur</th>
<th>Dhar</th>
<th>Khandwa</th>
<th>Dausa</th>
<th>Dungarpur</th>
<th>Lalitpur</th>
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10 GNM: are not in position at the PHC level in UP.
SECTION 5: RESULTS AND FINDINGS

Understanding the Problem

The low availability of specialist services\(^{20}\) in rural India is multi-faceted problem and requires an in-depth examination of the contributing factors in order to implement strategically sound solutions. Our primary research from district, state, and national-level interviews suggest that the main reasons inhibiting the wide availability of specialist services in maternal and child care specifically are because 1) the number sanctioned positions do not match need based on population, 2) the absolute number of specialists working in public sector are insufficient, 3) specialist doctors are inappropriately matched with other specialists in a facility/district, 4) specialist doctors are posted but not present at facility at appropriate time, 5) doctors trained in specialist services lack confidence or fear backlash from community, or 6) the infrastructure required for specific specialist service is unavailable.

Government Sanctions

As previously stated above in the Literature Review, NRHM data shows that the number of government sanctions for obstetricians/gynaecologists and paediatricians is only approximately 40% of the required number as per IPHS standards. As a result, the number of positions available for specialist doctors, even if every position were filled appropriately, would be insufficient to meet the current demand as per norms. Not only does the inappropriate allocation of sanctions result in the inability of states and districts to recruit the appropriate number of specialists, it also results in specialists working under other designations or positions. The following chart indicates that in Assam, Bihar, and MP, less than two-thirds of the interviewed specialist doctors were actually officially appointed in a specialist position.

\[^{20}\text{All references to ‘specialist services’ in this paper refer specifically to services in the areas of paediatrics, obstetrics and gynaecology, and anaesthesia.}\]
Data from interviews with many specialists in our districts suggests that specialists are often working with a Medical Officer designation. This is either due to the fact that they are unable to be hired directly into a specialist position and often do not receive the opportunity to be promoted into one; or that there are no specialist positions sanctioned in the particular district. This results in several key issues. First, MOs are not necessarily always placed at a location where specialist services are offered (e.g. at a PHC), which would prohibit a specialist from delivering specialty maternal or child care if recruited at such a facility. Second, salary structures of Medical Officers are lower than that of Specialist Doctors, therefore resulting in potential loss of motivation and increased likelihood of seeking work outside of the public sector. Lastly, the scope for promotion is limited, therefore resulting in increased difficulty for retention.

Recruitment and Retention

Furthermore, filling the sanctioned number of specialist positions is a significant challenge faced by all the districts and states in our study. Primary data collection from all districts of study suggest significant gaps in sanctioned vs. in-position specialists posts – bold numbers indicate areas where the positions filled do not meet the number of sanctions. Out of a total 224 sanctioned positions for these specialists in the districts visited, only 92 total positions are filled, indicating a gap of approximately 59% of specialists in our ten districts. This gap exists primarily at the CHC level; it is unclear from the data whether specialists are actually deputed to facilities other than where they are supposed to be based.

<table>
<thead>
<tr>
<th></th>
<th>Assam</th>
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<th>Madhya Pradesh</th>
<th>Rajasthan</th>
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<tr>
<td></td>
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<td>JE</td>
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<td>DH</td>
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<td>0</td>
</tr>
<tr>
<td><strong>Anes.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanctioned</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>In-Position</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

It is important to recall that the number of sanctions often do not match need. Specialist doctors’ own perceptions of the shortage indicate that there is a need for a greater number of specialist doctors in their districts, even in areas where the numbers in position match the sanction. As indicated in Chart 2, under a quarter of specialists in all districts are satisfied with the number of specialist doctors in their district, which suggests an inability to provide for the appropriate specialist services and a potential burning out and demotivation for the specialist doctors who are currently working in the district.
State-wide data quantifying the gap in the availability of specialists is poorly kept and often outdated. However, qualitative data from state-level discussions suggest that the gaps indicated from data from districts of study are representative of gaps that exist across each of these states. For example, a discussion with a state-level representative from UP indicates that, across the state, a total of 3,525 specialist doctors are in place and there is a need of an additional 8,600. This is not exclusively including paediatrics, obstetrics/gynaecology, or anaesthesia specialists, but is indicative of the severe shortage. Respondents from states stressed that the shortage in paediatricians is the most severe.

Several reasons were stated across all states that contributed to the low absolute numbers of specialist doctors. First, is the dearth of post-graduate seats in medical colleges, cited by respondents in Assam, Bihar, and UP. Second, a widely-recognized reason stated by most specialist doctors, is the desire to live in urban areas for better personal and family opportunities in terms of living and working conditions, which prohibits these specialists from opting for full-time rural posts. Though most respondents indicated that a government order determines their place of posting, discussions reveal that, in reality, most postings are highly politicized and individual doctors can use their political influence in order to choose their facility. As a result, the facilities with the greatest need, largely those that are the most rural, are often neglected.

Third, across all states, the discrepancy in salaries provided by the private and public sector is so large that many specialist doctors opt to practice in private facilities or medical colleges for financial reasons. Chart 3 indicates that private sector monthly income, as per the respondents in this survey, is about double that of the monthly income of specialist doctors working in government health facilities. Primary data (Chart 4) also indicates that, in all states, under one-third of specialist doctors are satisfied with their current income.
Lastly, a great contributing factor to the shortage of specialist doctors in the districts and states of study is specific policies that prohibit districts from being able to fill their sanctioned positions. In Bihar, for example, full-time hiring of specialist doctors has not occurred in over a decade, and the state is only hiring specialists on a contractual basis. This results in limited commitment and high attrition rates. Across states, despite repeated requests from districts to states for additional specialist doctors, states are unable to fill these requests for many of the above reasons.

**Irrational Deployment**

Irrational deployment, or poor positioning of specialist doctors within a district to maximize their service delivery potential, was cited across districts as a primary cause for the low availability of specialist services. Skills mismatch contributes a great deal to this issue – in other words, in several of the districts, anecdotal evidence suggested that an OB/GYN specialist would be in one facility without an anaesthetist, while another facility would have only an anaesthetist and not an OB/GYN specialist. Though both facilities were physically equipped for conducting caesarean section procedures, neither one was able to offer the services because of the mismatch of specialist doctors. Some district health administrators have the capability of deputing specialists to a facility where their skills would be utilized, but this is neither a permanent nor always a feasible solution.

Additionally, the promotion of high performing and skilled specialist doctors generally results in them moving to an administrative role, either within the block or the entire district. As a result, the most highly skilled and capable specialist doctors are spending all their time with desk work rather than providing specialty maternal or child care, reducing the districts capability of specialty service delivery despite having a specialist doctor in place.

Lastly, our qualitative data also indicated that specialist doctors were sometimes recruited against Medical Officer positions, therefore at facilities that were never meant to provide specialist services and underutilizing the skills of the specialist doctor.
Supervision and Regulation
In most all states of study except Assam, a rampant private sector attracts specialist doctors who make a lucrative living by having private practices in addition to being employed by government facilities. In MP, UP, and Rajasthan, dual-practice regulations do exist which prohibit government doctors from practicing in the private sector simultaneously. In these states, a non-practicing allowance (NPA) of 25% (MP and UP) or 20% (Rajasthan) are provided to government doctors for not being able to simultaneously earn money from practicing in the private setting. In Bihar, a dual-practice ban was initially tested but later withdrawn in 2001; moreover, Bihar does not offer a non-practicing allowance and therefore dual-practice is certainly an issue in this state. Though Dhubri and Morigaon in Assam do not have the presence of private sector, Assam does discourage dual-practice state-wide (there is no formal ban) and provide an NPA of 20%. Despite bans, NPAs, and in some states, stipulations regarding the distance of a doctor’s private practice from the location of government posting, dual practice often pursues. In combination with this, supervision mechanisms to ensure attendance of specialist doctors are poor across districts – district administrators have little power or ability to enforce attendance. As a result, even in circumstances where the appropriate specialist doctors are in position in an equipped facility, poor supervision and accountability measures result in absenteeism of specialist doctors.

Infrastructure
Gaps in physical infrastructure, supplies, and equipment further contribute to the poor availability of specialist services in rural areas. Data from primary research shows that 47-60% of the respondents stated that they are missing critical equipment or infrastructure in their health facilities that prevents their ability to provide specific maternal or child care services. However, this is also sometimes used as an excuse for specialists to avoid providing necessary care – oftentimes the equipment that a facility lacks can easily be purchased from funds available within the facility budget. As a result, this is not necessarily equipment availability or funding issue, but rather points towards a greater health planning and facility management issue.

<table>
<thead>
<tr>
<th></th>
<th>Assam n=15</th>
<th>Bihar n=15</th>
<th>MP n=15</th>
<th>Rajasthan n=15</th>
<th>UP n=15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage (%)</td>
<td>60%</td>
<td>73%</td>
<td>60%</td>
<td>47%</td>
<td>47%</td>
</tr>
</tbody>
</table>

The lack of functioning blood banks or blood storage units at many facilities is often a prohibitive factor in the ability of a facility to conduct C-section procedures. Other most common infrastructural gaps are the lack of oxygen supply, suction equipment, ventilators, and phototherapy machines for newborns.

Poor Governance
Many of the above issues, including but not limited to poor assignment of sanctions, irrational deployment, inadequate supervision, poor management of funds for procurement of necessary equipment, etc., point towards a greater problem of governance in districts in India. An overall inefficiency and lack of transparency and accountability in the way health programs are managed and funding is spent contributes to many problems within the health sector, including the low availability of specialist services that is a result of a lack of actual specialists and also the poor performance of available specialists.
Poor Confidence
Last, but certainly not least, poor confidence or fear of community backlash results in doctors’ apprehension to perform complex procedures or make complicated diagnoses, therefore causing them to refer to district or tertiary care hospitals when often not necessary. In communities where negative events have occurred due to a death or medical complication, threats to doctors often results in doctors avoiding providing any high-level care for fear of being responsible for a negative health outcome. Furthermore, even where strategies such as supplementary training for medical officers have been employed to overcome the shortage of specialist doctors and specialist services, these medical officers are not often confident enough to perform procedure on their own, which defeats the purpose of having undergone additional supplementary training. This is a great indicator of the poor quality of the trainings, assessments, and refresher courses – further research evaluating these are required in the future.

Assessing the Effects
Without adequate specialist doctors in place in rural government facilities, or with inappropriate positioning or poor performance of specialist doctors, the resulting lack of the ability of public health institutions to provide necessary care in maternal and child health is a gross gap in health service delivery. The effects of the lack of availability of and access to specialty care is well established in practice and in literature, and therefore is not a focus of this paper and only summarized below:

In addition to late diagnoses, misdiagnoses, and improper provision of care that could result in high morbidity and mortality, attempts to refer patients to other facilities also cause health and logistical concerns. According to district averages, the farthest distance that a patient must travel to reach a specialist doctor (paediatrician, ob/gyn, or anaesthetist) ranges between 20 kilometres in Bihar up to 50 kilometres in Madhya Pradesh (Table 8). The need to travel such long distances to reach a specialist doctor or a specific maternal or child health service results in reluctance to access the public health system, high costs incurred in case of the need to hire private transport, and potentially fatal complications en route.

Table 8. Farthest Distance to a Specialist Doctor (Kilometres)

<table>
<thead>
<tr>
<th>Assam</th>
<th>Bihar</th>
<th>Madhya Pradesh</th>
<th>Rajasthan</th>
<th>Uttar Pradesh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dhubri</td>
<td>Morigaon</td>
<td>Jehanabad</td>
<td>Samastipur</td>
<td>Dhar</td>
</tr>
<tr>
<td>30</td>
<td>30</td>
<td>40</td>
<td>20</td>
<td>50</td>
</tr>
</tbody>
</table>

Either because nearby public health institutions are incapable of providing specific specialty services or because, in many areas, the public has lost faith and trust in government facilities, all districts (except Morigaon in Assam) face the challenge of patients using private facilities and facing high out-of-pocket costs. For example, for a caesarean section procedure that is free in a government hospital, GNM reports that patients are spending anywhere between approximately Rs. 9,000 and Rs. 25,000 for this procedure in private facilities in the districts of study (Table 9). This is an unaffordable and unnecessary expense for the rural poor that would be avoided if government facilities were able to provide these services.

Table 9. Average Cost of a C-Section Procedure in Private Facilities (GNM Responses)

<table>
<thead>
<tr>
<th>Assam</th>
<th>Bihar</th>
<th>Madhya Pradesh</th>
<th>Rajasthan</th>
<th>Uttar Pradesh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dhubri</td>
<td>Morigaon</td>
<td>Jehanabad</td>
<td>Samastipur</td>
<td>Dhar</td>
</tr>
<tr>
<td>25000</td>
<td>20000</td>
<td>(16000-25000)</td>
<td>9400</td>
<td>(5000-15000)</td>
</tr>
</tbody>
</table>

21 Estimated figure from Health Worker Responses, District Administrator did not provide an answer to this question.
Furthermore, private health facilities are often unregulated and can actually offer poorer services despite the high cost incurred. As a result, patients are not only forced to bear a high out-of-pocket expense but may often be paying for sub-par health services.

**Exploring Potential Strategies**

Qualitative interviews with district, state, and national-level respondents explored the strategies that are currently being employed to mitigate the poor availability of specialist services to determine the most successful, viable, and well-perceived options for implementation. Table 10 presents an overview of the types of strategies that were brought up in state-level discussions, followed by a discussion of each strategy.

Table 10. Strategies Discussed by State-Level Experts

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Assam</th>
<th>Bihar</th>
<th>MP</th>
<th>Rajasthan</th>
<th>UP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term Supplementary Training for MOs</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>New Cadres or Diplomas</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Public Private Partnerships</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Incentives for Specialist Doctors</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Mandatory Rural Rotations/ Postings</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Additional Post-Graduate Seats</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Re-hiring Retired Specialists</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Rationalizing/ Depoliticizing Deployment</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Visiting Doctors from Other Public Facilities</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Task Shifting</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Use of ICT (Telemedicine, Call Center)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Innovative Recruitment</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Improved Monitoring and Supervision</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Mobile Camps</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Infrastructure Improvements</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

**Key for Table 10:**

- Strategy not suggested/discussed
- Strategy moderately successful with improvements needed
- Strategy recently implemented or success not yet determined
- Strategy not successful, significant improvements needed
- Strategy not successful, not worth considering
- Strategies in consideration for future

Note: This chart only indicates the spectrum of strategies that arose during primary research with district and state-level respondent and is not exhaustive list of all strategies employed in the particular state; strategies not listed here may be used in these states.
Short-term Supplementary Training for Medical Officers

Respondents in all states indicated that the provision of 4-6 month short-term supplementary training courses for MBBS Medical Officers in the areas of maternal and child health and anaesthesia is a viable option for addressing the shortage of specialist doctors in rural areas in their states. This strategy is one of the few that were reported to have been implemented and helpful in increasing the number of trained hands that are available at the district level in all states. Not only by providing other health workers with skills that will allow them to provide specialist services, but also providing them with the ability to which patients actually need to be attended to by a specialist doctor will reduce the workload on existing specialists. However, there are still improvements required that would strengthen the execution and increase proposed benefits.

State- and district-level respondents mention pediatrics training to be more scarcely available and offered when compared to training in obstetric care or anaesthesia. Local development partners, such as the Norway India Partnership Initiative (NIPI) in Rajasthan are piloting a newborn care training program. Paediatric supplementary training is certainly an area that must be more established. Secondly, proper re-integration into the district setting post-training must be enhanced. According to qualitative data from primary research, medical officers who receive supplementary training (which will be referred to in this paper as ‘Trained Medical Officers,’ or TMOs) are sent directly to their home institution, with little to no supervision and sometimes low volumes of special maternal and child cases. Respondents in multiple states have suggested that TMOs should spend a short period of time in the district hospital or high-load FRU before re-integrating into their home institutions, so that their skills are sharpened in the district setting and they gain the confidence to perform procedures and make diagnoses on their own. Third, refresher training for these supplementary courses do not yet exist -- as with any other training, a brief refresher course would ensure continued quality of service delivery.

A significant challenge is gaining buy-in from specialist doctors and specialist organizations regarding supplementary training for Medical Officers. For example, in Rajasthan, a state-level organization of anaesthesiologists has been trying to put an end to the LSAS (Life Saving Anaesthesia skills) course for Medical Officers. The following chart illustrates that in our primary research, approximately 31% of specialist doctors do not believe that a short-term, 4-6 month training, is sufficient for MOs to gain the necessary technical skills to provide specialty maternal and child care. This backlash from the medical community must be considered.

23 For example, if health workers are trained on more appropriately identifying which mothers definitely need a caesarean section, or are trained on vacuum extraction, many c-sections can be avoided, leaving specialist doctors with the time to conduct procedures that are critically necessary.
Furthermore, our data suggests that encouraging Medical Officers to enrol in the training course also could pose a challenge. As depicted in Chart 6, on average, about only 50% of the Medical Officers interviewed (with the exception of Bihar, where the percentage was under 20%) were interested in pursuing a supplementary training course in paediatrics, obstetrics, or anaesthesia.

For those who were interested in pursuing a supplementary training course, if offered, the only compelling reasons cited were a desire for an increase in medical knowledge and an increase in their ability to care for patients. Surprisingly, an increase in salary, one-time monetary incentive, or promotion was not cited as reasons that would motivate enrolling in these courses. Therefore, not only will it be critical to gain specialist doctor’s buy-in for these trainings, it will be equally critical to market these trainings effectively to Medical Officers.

It is also important to acknowledge that supplementary training for Medical Officers is not necessarily a long-term solution for addressing the larger issue of the shortage of specialists, but rather a short-term, stop-gap solution to address immediate need. Despite these challenges,
however, supplementary training courses for MOs proves to be one of the more positively favoured strategies for increasing the availability of specialist services for the rural population in India.

New Cadres
The state of Assam instituted a 2-year Post Graduate Diploma course for medical officers in 2005 following the Assam Rural Health Regulatory Act of 2004, in one of four areas: maternal health, clinical anaesthesiology, paediatric medicine, and radiology. The first batch of approximately 100 medical officers has enrolled, and will be absorbed into FRU/CHCs around the state upon completion of the two years. The incentive includes an additional remuneration as part of their monthly salary. Given that this is not a nationally recognized degree, it prevents these medical officers from being able to practice elsewhere or even in the private setting as a specialist doctor. Therefore, despite the obvious benefit of ensuring that these medical officers remain in practice in government facilities in Assam, enrolment may be a challenge. As this program is still young, further benefits and challenges are yet to be determined.

Public Private Partnerships (PPP)
Most states have attempted to engage the private sector in an effort to increase the availability of specialist services that patients in the rural setting can access, either through accreditation of private facilities for use by all patients (generally reimbursed through a voucher mechanism) or by contracting private specialists on a case-by-case or day-by-day basis. Two important challenges prevent these strategies from being as successful as they could be. First, the amount of money that the government system can offer to a private facility or private doctor is generally not sufficient to warrant the private sector’s involvement. Individual specialists are usually offered around Rs. 1,500 a day, which doesn’t compel them to come as and when required, and rather only at their individual convenience. Partnering with private nursing homes and hospitals also poses concerns for quality of care -- given that there is poor regulation of the private sector, oftentimes this strategy only increase the potential of a patient accessing sub-optimal care. However, as many states suggest, if a third party agency is able to more tightly regulate practices in the private sector, this option may be more viable.

Additionally, the Rashtriya Swasthya Bima Yojana (RSBY) scheme, a government-provided health insurance scheme for below poverty line (BPL) citizens, is important to consider in that it potentially increases competition between private and public health facilities. Given that the health insurance allows use of both government institutions and private clinics, it has the potential to stimulate improved performance and interaction. Initial assessment of the scheme suggests, however, that significantly more private institutions have been empanelled than public (Mahal 2002) and this privatisation of healthcare may alter the landscape public health providers in India.

Incentives for Specialist Doctors
Discussions with state-level experts suggests that all states have, or are in the process of, implementing additional incentives to attract specialists to work, or continue working, in the rural public setting. In Assam and MP, for example, the government has begun to offer salaries of Rs. 75K/month and Rs. 50-60K/month to try and attract specialists to work, however the increment is anywhere from zero to tens of thousands of rupees given that data (both secondary and primary) on salaries varies significantly. However, respondents suggest that increases in base salary are not significant enough to incentivize given they are rarely higher than one would be able to make in the private sector or urban setting. In Rajasthan, a fee-for-service incentive was implemented where doctors would be paid for each night-time delivery they conducted; however, soon after the scheme began, all deliveries would only happen during the night and the incentive was discontinued.
Respondents in Bihar, MP, and UP also stated that hardship allowances for practicing in rural or hard-to-reach areas are available, but are still not enough to entice specialist doctors to work in these settings. One respondent from Assam even suggested that salaries for rural positions should potentially be higher than salaries of equivalent doctors in the urban setting, and only then will the offer from a public facility be competitive. While the incentives that have been implemented thus far have not proven to be very successful, respondents are still hopeful that serious revisions and reconsiderations of incentive structures for specialist doctors can encourage them to practice in the rural public setting.

National level discussions on incentivizing specialist doctors for rural service suggested that monetary incentives alone are not sufficient to attract and retain specialists. If anything, a package of incentives in addition to a simple increase in salary was deemed necessary.

Mandatory Rural Rotations
Many states have mandatory rural rotations in position for all MBBS graduates to ensure a constant presence of doctors in rural health facilities as well as practical training. This requirement ranges anywhere from 1 to 5 years, against a bond of anywhere from Rs. 1 to 10 lakhs. This strategy is relatively well-established, though it does not address the issue of the lack of availability of specialists in the rural setting. Modelled on this, however, a few states have begun to implement a compulsory rural service for specialists’ post-completion of their Post Graduate Degrees. According to the NHSRC, in Tamil Nadu and Kerala, graduates from Post Graduate degrees must serve in rural areas for 5 years if graduating from a government college and 3 years if graduating from a private medical college, against a bond of Rs. 5 lakhs. Respondents in our study from Assam, MP, and Rajasthan all mentioned their states considering implementing this strategy while suggesting significant challenges to implementation. Relying on experience from the mandatory rural posting for MBBS doctors, respondents indicate that poor enforcement and use of political connections allows doctors to find their way out of the compulsory commitment and suggest that the same issues will apply to a compulsory rural service for PG graduates, if not in a heightened way. The lack of governance is, again, contributing to poor effectiveness of strategies. If a better method of implementation and enforcement existed, this option could be viable.

Additional PG Seats
Increasing the number of medical colleges or post-graduate seats in a state is also necessary to increase the production and supply of specialist doctors. Many states are in the process of doing so; in Assam, for example, five new medical colleges have recently opened and four more will be opened in rural areas. However, it is important to note that the lack of sufficient medical faculty in the country is a problem that must be addressed, in order to ensure proper supervision and medical graduates of the highest quality.

In addition to and perhaps more important than increasing the number of specialist doctors that are produced, is improving the perception of working in the public sector. As one respondent from Rajasthan mentioned, medical colleges and the medical community must encourage students to pursue working in the public sector. Even an increased educational and professional exchange between public and private doctors will set the trend in a positive direction; for example, large medical conferences are most often attended by doctors who work in the private and urban setting. By opening these opportunities to doctors who work in government facilities, along with other strategies to level the ground between specialists in the private and public sector, specialists will be motivated to work in the public sector.

Re-hiring Retired Specialists
Another strategy discussed by respondents from Rajasthan and Assam is the hiring of retired specialists with increased salaries. However, this has also been largely unsuccessful given that most often these retirees do not want to live in rural areas and receive much higher offers from private facilities in urban areas. Furthermore, these specialists would only be hired on a contractual basis and thus this is not a sustainable solution.

Rationalizing Deployment
Inappropriate positioning of specialist doctors, either due to irrational hiring/government sanctions or highly politicized recruitment, often results in the inability to utilize the skills that are on the ground in a district. In Assam, the NRHM has recently created a database to identify specialists who are not currently positioned at functioning FRUs so that they can re-allocate these specialists accordingly. In Rajasthan, steps have been taken over the past year to move specialists positioned in PHCs to higher facilities, yet there is still a shortage at most District Hospitals. Respondents from Bihar and UP have both specifically mentioned the need to rationalize deployment in the future. Though some steps are being taken to ensure that the specialists that do exist in a district are a) paired with other specialists so their skills can be utilized and b) are in facilities that are physically equipped, progress is slow and the use of political connections to remain in a facility of one's choice is hard to overcome.

Visiting Doctors on Case-by-Case or Day-by-Day Basis
As a private specialist doctor would be contracted on a case or daily basis to see patients in a public setting, Assam and perhaps other states have attempted to have visiting specialist doctors from higher-level to lower-level facilities. However, this is not a viable option for the long-term, according to respondents, given that these specialists already have high caseloads in their home institutions and are unable to travel around with efficiency.

Task Shifting
According to the specialists in our sample, over 65% of all specialists believed that nursing-level staff would be able to handle additional responsibility in maternal and childcare, given additional training. However, it is important to note that almost all specialists stressed that nurses could play a supportive role only; in other words, the nurses would only be able to triage and see patients with minor issues, such that the specialists’ time was focused on those that really needed their attention.
State level respondents were equally negative about nurses actually being trained in specific specialist services (like in other countries, where nurses are trained to provide anaesthesia, etc.). It was stressed that even Medical Officers with six months of training lack the confidence necessary to provide these services, therefore it would not be possible for nurses to be qualified to take the place of specialist care. While evidence from other countries, both developed and developing, have suggested that task shifting and providing nurses with the training and ability to handle additional responsibility is a positive strategy for health services delivery, India still has a long way to go before task shifting in this manner can truly succeed, due to perceptions of citizens who believe that they should be treated by a doctor and profit-motives for medical professionals.

Use of ICT
The use of information and communication technologies, particularly videoconferencing or telemedicine, has yet to be explored deeply in the districts/states of study for doctor-patient interaction. It has been tried, however, for administrative and training purposes. Respondents in Assam, Bihar, and Rajasthan suggest that telemedicine is difficult for maternal and child health purposes. If anything, it is only sufficient for level-one diagnoses or if an ECG or other report can be uploaded. Respondents are not closed to the idea of exploring the use of technology further, but are sceptical that it will prove to be very beneficial in increasing availability of or access to specialist services in maternal health. One strategy that has been employed in Rajasthan is a call-center where physicians and nurses can access a group of specialist doctors who are all in one location. This kind of a hotline or knowledge resource would likely be the most useful in making diagnoses or identifying complications for paediatric or maternal cases.

In Madhya Pradesh, an example of the use of technology for maternal and child health was highlighted. In a World Bank and IIT Madras-supported program, the use of mobile telephones linked with computers received voice-activated inputs of children's height, weight, and nutritional status. With this information, the nurse would receive information on the specific nutritional supplements to be distributed. While this example does not yet indicate a use of ICT specifically for increasing the availability of specialist services for maternal and child patients, it does suggest, along with Rajasthan's example of a specialist call-center, that the use of technology in maternal and child health should be pursued as a strategy of the future.

Innovative Recruitment
In Bihar, a recent online system has been developed that posts vacancies in specialist positions in the districts. What is unique is that districts themselves are allowed to conduct walk-in interviews, unlike everywhere else where hiring and placement happens at a state level. Though this strategy is early and will take time to address the problem at large, providing the districts with the power to hire and manage their human resources is certainly a positive step.

Improved Monitoring and Supervision
While at a state level, only respondents from MP specifically called out the need for improved monitoring and supervision for specialist doctors, all district-level qualitative discussions also focused on this need. As of now, district-level health administration has little jurisdiction or power to supervise the performance and attendance of medical officers and specialist doctors. There is little action that can be taken against non-performers, and often no action is taken due to doctors' political connections. Given that specialist doctors often have private practices in addition to their primary appointments within the government systems, absenteeism can be a significant issue. District (or block) level health administration should be empowered with the ability to appropriate a hotline or knowledge resource such as described above, that would allow them to monitor and manage the presence and performance of the specialists (and other health personnel) who are in position in government facilities.
Mobile Camps
Mobile camps, where specialist doctors from higher level facilities within a district or even from state-level medical colleges attend individual screening events in rural areas, are largely flawed in design. The primary issues with this model is that the visits do not happen often enough, and therefore only capture and identify issues at one stationary point in time -- there is no hope for continuous care or even a wide enough reach. As a result, health camps are generally not a beneficial way of increasing availability or access to specialist services on the whole.

Infrastructure Improvements
District and state-level respondents from all states acknowledge that even with the availability of specialist doctors, facilities are not always equipped with sufficient infrastructure or supplies to provide specific services in maternal and child health. Most specifically, NRHM has been successful in upgrading many CHCs to FRUs across states; however, the existence and functionality of blood storage units in these FRUs is scarce. Across districts and states, NRHM programming has a long way to go to ensure that physical infrastructure needed for specialist services in maternal and child care are in place.
SECTION 6: DISCUSSION & RECOMMENDED STRATEGIES

In the context of findings from secondary and primary research outlined above in this paper, we present the following potential new strategies and amendments to existing strategies for increasing availability of specialist services in rural India in the areas. The strategies below are outlined as short- or medium to long-term solutions and categorized as either regulatory or programmatic recommendations.

A. SHORT-TERM STRATEGIES

Program Recommendations

1. Improve the effectiveness of supplementary training programs for Medical Officers

Though all states have begun supplementary training courses for medical officers to provide them with skills to offer additional specialist services in the field of paediatrics, obstetrics, and anaesthesia, improvements are necessary to ensure success of this program. While being a short-term, and potentially only a stop-gap solution to addressing the nation-wide problem of the availability of specialist services in rural areas, it is a concrete method through which the provision of maternal and child health specialty care can be increased.

- **Awareness**: Given that the recognition of these training programs are poor among all levels of the district health system – district administrators are unaware of which doctors are trained, specialist doctors are not clear about the differentiation in the TMOs role, and medical officers are not entirely sure of the opportunities being provided to them – improved state-wide perception of supplementary training program (in terms of availability, benefits, and opportunities) are necessary.

- **Enrolment**: In the districts of study, no systemized method for application and enrolment for supplementary training has been employed, and doctors are sometimes chosen at random or against their will to complete the training courses. An open application process should be implemented, where doctors are chosen based on merit and interest to pursue additional training. With this, the likelihood of these trained medical officers actually providing additional specialty care upon training completion would be highest.

- **Incentive**: Monetary incentives alone would not compel medical officers to enrol in supplementary training courses; providing additional recognition or prestige, or other incentives such as providing reservations for post-graduate studies are necessary.

- **Facility-Based Training**: Post-completion of supplementary training, a one to two month compulsory posting in a higher level facility (most likely the district hospital), where other specialists are present and the case load is heavy, is critical for trained medical officers to gain practical experience in the field to gain the confidence to conduct procedures on their own in their home facilities.

- **Refresher Training**: As with most other trainings for health workers, which currently lack formal refresher training components, a yearly or semi-annual short refresher training course would ensure that doctors are kept up-to-date with latest practices and are providing proper care. Mandatory continued medical education for license renewal, supported by medical profession bodies and the Medical Council of India, could also be considered to ensure that doctors are up to date with their knowledge.
2. **Initiate targeted infrastructure improvements**

Though there have been great efforts nationwide to ensure infrastructural improvements and refurbishments for specialty care, including the widespread efforts to upgrade CHCs to functioning First Referral Units (FRUs), significant progress is needed to ensure that women and children are not deprived of specialty care because of gaps in infrastructure and equipment. Most often, it is not the lack of large-scale infrastructure (such as the construction of an operation theatre) that is preventing the district from having at least two to three C-section points. However, it is essentials such as blood storage, oxygen supply, and ventilator support that are needed. A revitalized effort at the district level is needed to ensure that, at the very minimum, facilities, which already have specialist doctors present, are prioritized for procurement of basic equipment. Rather than employing a sweeping approach in an attempt to upgrade all CHCs to FRUs, which can be an overwhelming task, a first and necessary step is to ensure that those facilities with the necessary manpower are equipped with the necessary infrastructure and tools for these specialists or trained MOs to provide specialty services.

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**Policy Recommendations**

3. **Create mechanisms for rational deployment and placement**

Perhaps the most necessary, high-impact, and immediate step in an effort to improve the availability of specialist services that government facilities can provide is to rationalize deployment and placement of specialist doctors. It is a sheer waste for specialist doctors to be inappropriately posted in facilities which either do not have the necessary infrastructure (when other facilities in a district do) or do not have the necessary accompanying support staff; existing specialist doctors too often cannot provide specialty care, and it is imperative that existing human resources are fully utilized. As a first step, district-level health management should be provided with the authority and the mechanism to re-position specialists to match skills and infrastructure. This would potentially have an immediate effect in the district’s ability to ensure the provision of specialist services.

As a longer term measure, states should revisit the number and location of specialist sanctions in conjunction with district officials to ensure rational placement. Furthermore, states should develop mechanisms to ensure that placements cannot be driven by political influence.

4. **Implement accountability mechanisms and enforce regulations**

Absenceism plagues the health system in India, further contributing to the lack of the presence of specialist doctors in the government facilities where they work. Two specific measures are needed to combat the issue of absenteeism and ensure that the specialist doctors that are being employed by the government system are indeed providing the services they were hired for:

I. District-level health management officials should be provided with the authority to take action to hold doctors and health workers accountable if they are not present in their home facility during standard hours of operation. As of now, there are no standardized attendance-verifying methods, and very few district-level personnel are empowered with the ability to dock a day’s salary if a doctor is not present during an ad-hoc spot check. No long term punitive measures exist, nor are there enough checks and balances in place to encourage doctors and other health workers to be present in the facilities. As discussed above, poor governance is a critical issue that needs to be addressed.

II. Regulations and incentives against dual-practicing in the private sector have yet to be successful, and require re-examination. At the very minimum, rules ensuring that specialist doctors do not a) see patients in their private practice during the hours that they should be serving in their home government facility, b) refer patients to their private facility or incentivize other health workers for doing the same, and c) have private practices within a certain radius of distance from their home facility, should be enforced.
B. MEDIUM TO LONG-TERM STRATEGIES

Program Recommendations

5. Explore options for use of ICT
In its early stages of development, the use of electronic and mobile technologies for health is certainly envisaged to have a greater role in health services delivery in the future. Continued research is necessary on the best ways to integrate information and communication technologies into maternal and child health services delivery, but positive attitudes in qualitative discussions indicate that it requires additional and investment to streamline the provision of specialty care. As a first step, the introduction of mobile phones and computers at lower level facilities will encourage health workers to initiate use of technology, initially for accessing hotlines and for data entry, and eventually for greater use for patient-doctor interaction.

6. Improve incentive structure
Many different types of incentives have been attempted in all states to encourage specialist doctors (and other health workers) to practice in the government rural setting, including increased salaries, hardship allowances, non-practicing allowances, performance-based incentives, daily or case-by-base incentives, etc. However, it is also well known that monetary incentives alone are not sufficient to attract doctors to rural government practice when, especially specialist doctors, can earn twice (if not more) the amount by practicing in a private nursing home. Incentive packages must be more aggressive and more creative, and must offer more than money for specialist doctors. While housing allowances or housing quarters are provided for specialist doctors, the poor living conditions in rural areas are a major deterrent; investments are needed to significantly improve infrastructure in areas of work and stay to significant incentivize specialist doctors to stay in rural areas. Furthermore, an idea that was not brought up in primary research conducted for this paper but requires exploration is providing specialist doctors with a second establishment allowance. Specialists who live and practice in the rural setting but require their families to live in the urban setting for education and livelihood purposes can be provided with a second establishment allowance to contribute to expenditures for their families who live separately from them.

Additionally, the perception of working in the government sector must be gradually improved over time, and must be initiated during medical education. Only with an increased positive perception over time, and with an attractive combination of incentives that focus on comfortable and pleasant living and working conditions, will specialist doctors be compelled to practice in the rural government setting.

Policy Recommendations

7. Consider rural postings for specialist doctors
Though only two southern states are currently considering mandatory rural postings for specialists, and some states do express implementation concerns regarding the compulsory rural service regulation for MBBS doctors, this is a strategy that deserves consideration nation-wide. A binding rural posting is an appropriate and effective way to ensure a constant stream of specialists in the rural setting; further research is necessary to determine mechanisms to engage with both government and private medical colleges on this. An implementation of this strategy requires strengthened enforcement (to avoid the use of political connections to exit the bond) and must also be accompanied with some incentive to encourage an even longer term served in the rural setting.

Another option to consider is a six-month in-service rural rotation, which would not only provide critical field-level training to enhance the ability of specialist doctors to work in the rural but additional specialist support at the district level. However, this idea must be further vetted to ensure appropriate integration with the training program.
8. Increase number of post-graduate seats

Apart from providing sufficient incentives to keep specialist doctors working in the government sector and avoid losing these specialists to the private sector, which has proven to be a difficult effort, the only other method of increasing the absolute number of doctors practicing in the public sector is to increase the number of post-graduate seats at existing government medical colleges, and to increase the number of new government medical colleges. Certainly this is a long-term vision for state and national governments that is already in the pipeline, but must remain an overarching goal in the forefront of addressing the issue of specialist doctors in rural India.

Conclusion

The policy and programme recommendations discussed above are not entirely new or undocumented, however, significant amendments are required for effective implementation and state-wide and nation-wide scale-up of strategies to ensure sufficient availability of specialist services in rural India. The above discussion proposes ways in which to improve or modify existing strategies in a widely discussed area of health systems strengthening all over the world: attracting and retaining health staff in rural areas.

No single strategy employed in India has been indisputably successful in attracting and retaining specialist doctors or increasing specialist services, and significant strides are necessary to strengthen the strategies in place. At its core, the issue stems from the inherent unattractiveness of working and living in rural areas. Providing incentives to attract specialist doctors to work in these areas will only go so far, given that a) one must understand the human desire to find work in a setting and location that is comfortable for herself and her family which cannot always be changed by monetary or non-monetary incentives and b) there is an upper limit to the amount of incentives that can be provided by the government sector at which the provision of health care is still fair and affordable. As a result, it is important to focus on strategies other than incentives for increasing the number of specialist doctors in rural areas, such as ensuring the existing specialist doctors are present and performing (increasing accountability mechanisms, improving infrastructure, and rationalizing deployment) and finding innovative ways in which to bring specialist services to patients (supplementary training for medical officers and use of ICT).

Innovative models employed in other countries, specifically in terms of the creation of new cadres of medical professionals and task-shifting, are not yet appropriate for the context of the Indian health system, but are hopefully in the horizon for health services in rural India. As a first step, educating and empowering the nursing cadre to provide basic curative care is necessary to reduce the burden on higher level facilities and ensure that only the complicated or severe patients are seen by a doctor or specialist. This is a hurdle that the country must face before training the nursing cadres to provide specialty services as has been done in other countries.

Public Private Partnerships (PPPs) are another option that must be explored further. ‘Contracting-out,’ or turning over the management of health services delivery to private sector is a widely debated topic and reserved for further study. According to our primary research, the ‘contracting-in’ method, or incentivizing private providers to provide services on a daily or case-by-case basis, was relatively unfavourable because a) the incentive was often not enough and b) their choice to engage in the arrangement is sporadic and at their convenience rather than as per the facility or patients’ needs. This is despite the fact that most states have provided districts with clear provisions for contracting in private providers.25 The provision of vouchers for patients to use in the private setting

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25 However, literature shows that in other countries, such as Rwanda, attractive pay for performance contracts have proven to be successful in contracting in private providers (Basinga et al 2010).
is a potential method in which a PPP can work, given that there such a high rate of utilization of private facilities currently; however, determining a way in which this would be affordable for the government and yet profitable for private sector will be challenging.

All in all, the country has begun to make early efforts to find ways in which to ensure that populations in rural settings have access to specialist services. Many of these are valiant efforts. However, significant advancements and amendments to existing strategies are required to ensure state-wide and nation-wide successes that are yet to be seen.
REFERENCES


