Indian approaches to retaining skilled health workers in rural areas
Thiagarajan Sundararaman & Garima Gupta

Problem  The lack of skilled service providers in rural areas of India has emerged as the most important constraint in achieving universal health care. India has about 1.4 million medical practitioners, 74% of whom live in urban areas where they serve only 28% of the population, while the rural population remains largely underserved.

Approach  The National Rural Health Mission, launched by the Government of India in 2005, promoted various state and national initiatives to address this issue. Under India’s federal constitution, the states are responsible for implementing the health system with financial support from the national government.

Local setting  The availability of doctors and nurses is limited by a lack of training colleges in states with the greatest need as well as the reluctance of professionals from urban areas to work in rural areas. Before 2005, the most common strategy was compulsory rural service bonds and mandatory rural service for preferential admission into post-graduate programmes.

Relevant changes  Initiatives under the National Rural Health Mission include an increase in sanctioned posts for public health facilities, incentives, workforce management policies, locality-specific recruitment and the creation of a new service cadre specifically for public sector employment. As a result, the National Rural Health Mission has added more than 82,343 skilled health workers to the public health workforce.

Lessons learnt  The problem of uneven distribution of skilled health workers can be solved. Educational strategies and community health worker programmes have shown promising results. Most of these strategies are too recent for outcome evaluation, although this would help optimize and develop an ideal mix of strategies for different contexts.

Introduction
The problem of lack of professional health service providers in rural areas has been an area of discussion in India since the 1960s. At the time of independence (1947), when there was approximately one doctor per 6300 people and one nurse for 43,000 people, the main focus was on expansion of medical and nursing colleges. However, the distribution of institutions was also very uneven. Recent figures show that 65% of medical and nursing colleges are concentrated in only six states. By 1961, the focus started shifting to the problem of skewed distribution of doctor and nurses. While the overall ratio of doctor to population had reduced to 1 per 4850 and 1 per 14,300 for nurses, only 2.2% of rural villages had allopathic (conventionally trained) doctors. While the current ratios for doctors are 1 per 1507 and 1 per 1205 for nurses, the problem of maldistribution remains unchanged.

The launch of the National Rural Health Mission in 2005 marked a turning point for public health planning in India. One of its key features was the commitment to increase public health expenditure from 0.9% of gross domestic product to at least 3%. It set out public health standards that specify the human resources required for each facility. The federal government provided funds for increasing the number of posts sanctioned by state governments to meet Indian public health standard norms. As an immediate measure, states were encouraged to hire, on a contractual basis, an additional auxiliary nurse-midwife for peripheral health subcentres, three nurses and a second doctor for primary health centres; nine nurses and seven doctors including five specialists in the 30-bed community health centres.

Within two years, this led to the appointment of almost 82,343 skilled health workers with medical or nursing qualifications in the public health system. This includes 39,633 auxiliary nurse-midwives, 22,789 nurses, 9,172 allopathic doctors and specialists, 5,321 ayurvedic/homeopathic doctors and 5,428 other technical staff. Impressive as this addition was, it still left a huge gap. There was also a clear problem in attracting nurses and doctors to more difficult areas, especially in tribal and hilly areas of central India and the north-east.

Retaining workers
The main skilled health workers in rural areas work in the public sector. Before the National Rural Health Mission, state governments covered all human resource costs except for the auxiliary nurse-midwife. About 80% of total health expenditure is borne by the states and, of this, about 70% goes towards salaries. From 2007 onwards, state governments introduced a range of measures with financial support from the federal government to address the problem of retention in rural postings. The information presented in this paper was collected from the review of state programme implementation plans of the National Rural Health Mission and from responses to specific queries sent to state health directorates.

Monetary compensation
Since 2007, monthly financial incentives in addition to salaries have been widely introduced across all the states for doctors, nurses and midwives working in remote areas (Table 1). There

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Abstracts in 中文, Français, Русский и Español at the end of each article.

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Health worker retention in rural India

Lessons from the field

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is a wide diversity between states in categorizing “difficult” areas. States have used criteria including: distance from urban areas; geographical terrain such as hilly, desert or forest areas; access by roads and public transport; availability of housing; and tribal areas or extremist insurgencies. The incentive amount depends on the cadre of the worker and on the way each state grades difficult areas.

The use of incentives increased significantly once integrated in the National Rural Health Mission. A national scheme for incentives for difficult areas is also proposed. Are incentives effective? It is still too early to comment. At the time of writing, most of these initiatives had been in place for less than two years. The workers welcome the use of incentives. However, whether they are adequate to increase willingness for rural postings has not yet been evaluated. There is reason to be cautious. Studies from other sources show a limited role of incentives, especially when the incentive amount is modest. The threat is that if incentives are not found to make a difference, then there is a strong temptation to consider the problem of retention as unsolvable.

### Workforce management

Recent experiences from Tamil Nadu and Karnataka states have shown that a major impact on worker morale can be achieved by providing rotational posting in difficult areas, ensuring that everyone spends some years there, after which they could choose to be posted to another area. The National Rural Health Mission is trying to encourage states to adopt workforce management policies that ensure transparent transfer and placement for doctors and nurses and better residential infrastructure for all health personnel.

### Table 1. Monthly incentives for doctors and nurses in “difficult area” postings in India

<table>
<thead>
<tr>
<th>State</th>
<th>Classification of “difficult area”</th>
<th>Incentive amount for Bachelor of Medicine/Bachelor of Surgery/specialists</th>
<th>Incentive amount for staff nurses/auxiliary nurse-midwives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>Rural areas</td>
<td>Specialists Rs 7000 (US$ 152) / medical officers Rs 1000 (US$ 22) /female medical officers Rs 1500 (US$ 32)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Tribal areas</td>
<td>Gynaecologists Rs 10 000 (US$ 217) / other specialists Rs 3000 (US$ 65)</td>
<td>n/a</td>
</tr>
<tr>
<td>Andaman &amp; Nicobar Islands</td>
<td>Tribal areas</td>
<td>Gynaecologists Rs 7000 (US$ 152)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Rural areas</td>
<td>Gynaecologists Rs 7000 (US$ 152)</td>
<td>n/a</td>
</tr>
<tr>
<td>Bihar</td>
<td>Difficult areas</td>
<td>Rs 3000 (US$ 65)</td>
<td>n/a</td>
</tr>
<tr>
<td>Haryana</td>
<td>Difficult areas</td>
<td>Rs 25 000 (US$ 543) / Rs 10 000 (US$ 217)</td>
<td>Rs 3000 (US$ 65)</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>Tribal areas</td>
<td>Rs 5000 (US$ 109)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Rural areas</td>
<td>Rs 3000 (US$ 65)</td>
<td>n/a</td>
</tr>
<tr>
<td>Jammu and Kashmir</td>
<td>Most difficult areas</td>
<td>Rs 10 000 (US$ 217)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Difficult areas</td>
<td>Rs 3000 (US$ 65)</td>
<td>n/a</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>Rural areas</td>
<td>Rs 10 000 (US$ 217)</td>
<td>Rs 1000 (US$ 22)</td>
</tr>
<tr>
<td>Kerala</td>
<td>Rural areas</td>
<td>Rs 5000 (US$ 109)</td>
<td>n/a</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>Rural areas</td>
<td>Rs 3000 (US$ 65)</td>
<td>n/a</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>Extremist area</td>
<td>Rs 1500 (US$ 32)</td>
<td>Rs 1500 (US$ 32)</td>
</tr>
<tr>
<td></td>
<td>Tribal area</td>
<td>Rs 1000 (US$ 22)</td>
<td>Rs 1000 (US$ 22)</td>
</tr>
<tr>
<td>Orissa</td>
<td>Remote areas</td>
<td>Rs 5000 (US$ 109) for contractual staff / Rs 8000 (US$ 174) for regular staff</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>District headquarters</td>
<td>Rs 4000 (US$ 87) for regular staff</td>
<td>n/a</td>
</tr>
<tr>
<td>Punjab</td>
<td>Rural areas</td>
<td>Rs 10 000 (US$ 217) / Rs 20 000 (US$ 435) / Rs 5000 (US$ 109) / Rs 10 000 (US$ 217)</td>
<td>n/a</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>Hard area</td>
<td>Rs 7000 (US$ 152)</td>
<td>Rs 2500 (US$ 54)</td>
</tr>
<tr>
<td></td>
<td>Rural area</td>
<td>Rs 4000 (US$ 87)</td>
<td>Rs 1500 (US$ 32)</td>
</tr>
<tr>
<td>Tripura</td>
<td>Primary health care</td>
<td>Rs 3000 (US$ 65)</td>
<td>Rs 1000 (US$ 22)</td>
</tr>
<tr>
<td></td>
<td>Community health centre</td>
<td>Rs 2000 (US$ 43)</td>
<td>Rs 800 (US$ 17)</td>
</tr>
<tr>
<td></td>
<td>State district hospital</td>
<td>Rs 1000 (US$ 22)</td>
<td>Rs 600 (US$ 13)</td>
</tr>
<tr>
<td>Uttarakhand</td>
<td>Upper Himalayas</td>
<td>Rs 5000 (US$ 109) for degree holders / Rs 3000 (US$ 65) for diploma holders</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>(most difficult)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Middle Himalayas</td>
<td>Rs 2000 (US$ 43)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(more difficult)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower regions</td>
<td>Rs 1000 (US$ 22)</td>
<td></td>
</tr>
</tbody>
</table>

n/a, not available; Rs, Indian rupees.

Source: Information as reported by state mission directors in response to written queries and as taken from State Programme Implementation Plans of the National Rural Health Mission.
though this is apparently a simple reform, in practice it often proves to be the most difficult, given its linkages to basic issues of governance.

One key strategy of the National Rural Health Mission is to appoint workers on contracts, usually for one to three years’ duration. There is a perception among health administrators that contractual appointments ensure more accountability, less absenteeism, more appropriate postings and therefore better workforce performance. Since contractual appointment is made to the facility, whereas permanent appointment is to the state public system, they may make it easier to prioritize rural and remote postings. But whether reduced job security from contractual appointments is the key to better performance and accountability is an open question.

### Education

Another set of measures is through preferentially drawing students for medical and nursing education from those who are willing to work in underserviced areas. The pioneer programme in this regard is in West Bengal state and, as preliminary reports suggest, it has been quite successful. The state faced the challenge of adding 10,000 auxiliary nurse-midwives within five years, while simultaneously addressing the problem of keeping the existing ones at their place of work. As a first step, 24 government schools for auxiliary nurse-midwives were revived and another 18 were started in partnerships with private hospitals. Then the local governance body (village panchayats) were given the power to select a woman in the village to train as an auxiliary nurse-midwife for that village to be employed by the local government institution. At the time of writing, more than 4,000 such auxiliary nurse-midwives had been given appointments, with many more in training.

Another example is the “Swalamban Yojana (self-reliance plan),” launched in Madhya Pradesh state in 2006–07 with the objective of filling the gap of staff nurses. Women with rural backgrounds from under-served districts are selected and sponsored for the nursing courses. They are bonded to serve in the rural areas for 7 years after training or else they have to pay a penalty of 200,000 Indian rupees. The initial responses to this strategy are very encouraging though it is still too early to judge.

### Alternative strategies

Almost all states have been addressing specialist shortages by providing doctors with short-term 18–24 week training courses in emergency obstetric care including Caesarean section and anaesthesia. Two states, Assam and Chhattisgarh, have created a cadre of rural medical practitioners with three years’ training, exclusively for working in primary health care in rural areas. Assam has insisted on local selection and conditional licensing to work only in rural areas and in the public sector.

Another form of multiskilling is to train and deploy doctors trained in the indigenous streams of medicine to work as medical officers in primary health centres. This has been used extensively in some states. About 70,000 female community health workers called ASHA (accredited social health activists) are trained to provide basic, first-contact health care and to encourage families to seek pregnancy and child health services. The pioneering effort for this was the “Mitanin” programme in Chhattisgarh (8). The first evaluations of this programme are promising but they also point to the need for much more investment to be made in this cadre for a greater outcome.

### Competing interests: None declared.
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Background

Methods

Results

Discussion

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Acknowledgements


Les approches de l’Inde en matière de rétention du personnel soignant compétent dans les zones rurales

Проблема

Методы

Резюме

Исследование

Заключение

Приложение

Окончание
Sделанные выводы Проблему неравного распределения медицинских кадров можно решить. Применение образовательных стратегий и программ для медработников на уровне общины позволило получить многообещающие результаты. Эффективность большинства этих стратегий еще рано оценивать, хотя это помогло бы оптимизировать их и разработать идеальный комплекс стратегий для различных условий.

**Resumen**

**Estrategias en la India para retener a los trabajadores sanitarios cualificados en las regiones rurales**

**Situación** La falta de proveedores de servicios cualificados en las zonas rurales de la India se ha convertido en el obstáculo más importante para conseguir la asistencia sanitaria universal. La India cuenta con alrededor de 1,4 millones de facultativos, de los cuales, el 74% vive en las áreas urbanas, donde atienden únicamente al 28% de la población, mientras que los habitantes de las regiones rurales siguen estando desatendidos en gran medida.

**Enfoque** La Misión Nacional de Salud Rural, puesta en marcha por el Gobierno de la India en 2005, ha promovido diversas iniciativas estatales y nacionales para tratar este problema. Según la Constitución federal de la India, los estados son responsables de implementar el sistema sanitario con el apoyo financiero del gobierno nacional.

**Marco regional** La disponibilidad de médicos y personal de enfermería se ve limitada por la ausencia de facultades en los estados que más los necesitan, así como por la reticencia de los profesionales de áreas urbanas a trabajar en las regiones rurales. Antes de 2005, la estrategia más habitual era el servicio obligatorio en zonas rurales para la admisión preferente en los programas de postgrado.

**Cambios importantes** Las iniciativas llevadas a cabo al amparo de la Misión Nacional de Salud Rural incluyen el aumento de puestos autorizados en los servicios públicos sanitarios, incentivos, políticas de gestión del personal, contratación local y la creación específica de un nuevo organigrama de servicios para la contratación pública. Como resultado, la Misión Nacional de Salud Rural ha incorporado más de 82 343 trabajadores sanitarios cualificados al personal sanitario de la función pública.

**Lecciones aprendidas** El problema de la distribución desigual del personal sanitario cualificado tiene solución. Las estrategias formativas y los programas comunitarios para el personal sanitario han dado resultados prometedores. La mayoría de estas estrategias son demasiado recientes para valorar sus resultados, aunque ayudarían a optimizar y desarrollar un conjunto idóneo de estrategias para su aplicación en diferentes contextos.

**References**