Available online at www.sciencedirect.com
ScienceDirect
Health Policy 84 (2007) 269–276
HEALTH policy
www.elsevier.com/locate/healthpol

'Where is the public health sector?' Public and private sector healthcare provision in Madhya Pradesh, India

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Abstract

Objective: This paper aims to empirically demonstrate the size and composition of the private health care sector in one of India's largest provinces, Madhya Pradesh.
Methodology: It is based on a field survey of all health care providers in Madhya Pradesh (60.4 million in 52,117 villages and 394 towns). Seventy-five percent of the population is rural and 37% live below poverty line. This survey was done as part of the development of a health management information system.
Findings: The distribution of health care providers in the province with regard to sector of work (public/private), rural–urban location, qualification, commercial orientation and institutional set-up are described. Of the 24,807 qualified doctors mapped in the survey, 18,757 (75.6%) work in the private sector. Fifteen thousand one hundred forty-two (80%) of these private physicians work in urban areas. The 72.1% (67793) of all qualified paramedical staff work in the private sector, mostly in rural areas.
Conclusion: The paper *empirically* demonstrates the dominant heterogeneous private health sector and the overall the disparity in healthcare provision in rural and urban areas. It argues for a new role for the public health sector, one of constructive oversight over the entire health sector (public and private) balanced with direct provision of services where necessary. It emphasizes the need to build strong public private partnerships to ensure equitable access to healthcare for all.

Keywords: Healthcare system; Private sector; Health policy

1. Introduction

The economic reforms adopted in India since 1991 have set a foundation for strong economic growth. Annual economic growth increased from an average of 4% in the four decades before reform to 8.1%. Foreign direct investment has grown from $100 million in the early 1990s to about $5.5 billion. There has been the growth of a world-class information technology sector, an evolving biotechnology sector, a competitive automobile industry, and a large service sector. But there is need to temper these suc-

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doi:10.1016/j.healthpol.2007.04.004

cesses with an honest look at the overall reality. India is a country of stark contradictions; 220 million people live below poverty line [1] for whom the economic growth of the last decade has meant little.

The economic achievements have been encouraging successes, but in themselves are insufficient to bring broader economic and social progress to the vast majority. Despite the economic optimism, there is growing concern that the basic institutions, organizations, and structures for public sector action are failing, especially for those at the bottom. Besides areas like education and infrastructure, the state of public health has been dismal. Notwithstanding some improvements in health indicators and some control over infectious diseases, India's public health system is ailing, under-funded and non-responsive. This vacuum in healthcare provision has been filled by a large, heterogeneous, private health sector that operates on a fee for service basis. This sector has now emerged as a dominant constituent of the health system with 77.4% of all health expenditure being made here [2]. It represents a resource widely used even by low-income groups.

This paper is based on a survey of all healthcare providers (HCP) among the 60.4 million people [3] in the central Indian province of Madhya Pradesh (MP). The survey was conducted as part of the development of a health management information system in the province by the provincial ministry of health under a bilateral donor assistance program. A heterogeneous group of HCPs with varying levels of qualification, work in different set-ups in its 52117 villages and 394 towns. There are no existing comprehensive records (official or otherwise) of all HCPs in the province. Some fragmented and often outdated information (limited to qualified doctors) is available with professional bodies and drug suppliers. Thus, a primary survey in the province was necessary.

The paper demonstrates empirically the public and (dominant) private sector health care provision in rural and urban MP. It discusses the growth of a heterogeneous flourishing private health sector that has expanded to cover area left by a receding public health sector, and the need for strong public private partnerships to achieve public health ends.

2. Methods

MP, India is a large relatively socio-economically backward province (60.4 million in 48 administrative districts). Three quarters of the population (73%) is rural [3] and 37.4% live below poverty line [4]. Though the province has some of India's poorest health indicators, there has been a steady improvement in these indicators over the last twenty-five years. (Recent official figures report infant mortality rate in the province at 79 and maternal mortality ratio at 498 [5].)

This survey, which was undertaken as part of the development of a health management information system, attempted to assess size and composition of the private health sector. No specific information related to characteristics and quality of care provided was elicited under the survey.

2.1. Data collection

A cross sectional survey of all HCPs was done from April 2004 to December 2004. All Chief health officers in each of the 48 districts were informed from the Provincial Directorate of Health about the planned survey. A questionnaire (in Hindi) was developed with the participation of various stakeholders including managers at the provincial and district levels (directors of health services, selected district medical officers). The questionnaire included information on provider name, sex, ownership (governmental or private), commercial orientation of the practice, medical qualification and system of medicine practiced. In case of institutional providers, additional details on the staff numbers and qualifications were sought.

The basic unit of the survey was a village in rural areas (500–1500 population) and a ward (20,000–50,000 population) in urban areas. Rural and urban areas were defined as per the official classification in the Census of India.

In the villages, trained surveyors first contacted the government health worker, the crèche worker, the panchayat (local self-government), schoolteacher or other influential persons to enlist the health providers working the village and their location. The surveyor then met the provider, explained the purpose of the survey, and administered a short structured interview (to obtain information on basic provider characteristics as above). In urban areas, surveyors sourced the list of providers

in each ward from multiple sources including professional bodies in the area, drug stores, corporators, and the government medical officers. They then systematically covered the streets of the ward, and used the initial contacts to identify other providers practicing in the area. In case of institutional providers, a responsible representative of the institution provided the necessary information.

A pilot was done in March 2004 following which the questionnaire and the methodology was reviewed and improved further. A special guide to aid surveyors was developed (in Hindi).

Supervision of the surveyors in the field was carried out concurrently. Two levels of manual scrutiny were done on completed questionnaires. In addition, validation was carried out by a repeat survey by project supervisors in 5% of villages in each district. Inconsistencies which were detected at any level were corrected with a resurvey of the village concerned. Also, all villages with a population of over 1000 were resurveyed (17,000 villages resurveyed).

Providers were keen to be enlisted in the survey. No sensitive information was sought. Information on providers and their characteristics was common local public knowledge.

Providers surveyed were classified based on qualification as (a) qualified doctors, those with formal university degrees to practice allopathic (Western) or Indian systems of Medicine and Homeopathy (ISMH), (b) qualified non-doctors, trained paramedical staff with a degree or diploma, nurses, pharmacists, laboratory technicians, radiographers, health workers, ophthalmic assistants, barefoot doctors, diploma holders in ISMH, (c) informally trained providers with a few weeks of training but no formal qualification (trained birth attendants), and (d) untrained providers.

2.2. Data entry and analysis

All data were initially entered using data entry screens (visual basic) with interactive error, range and consistency checking. After data cleaning, analysis was done in SPSS, Version 11.5.

3. Results

3.1. Human resources

Of the 24,807 qualified doctors mapped in the survey, 18757 (75.6%) work in the private sector. Eighty percent (15142) of these private physicians work in urban areas. Of all qualified paramedical staff 72.1% (67793) work in the private sector, though only a quarter of these worked in urban areas.

Table 1 shows that 77% of all qualified doctors worked in urban areas (26% of the population is urban). This works out to be 1 physician per 834 urban population and 1 per 7870 rural population.

Most (71%) paramedical staff worked in rural areas (1:670 rural population). These were mostly solo practitioners (private sector). They functioned as the dominant HCPs in the absence of qualified doctors.

Traditional birth attendants (55393) and unqualified (89090) providers, all working privately were also mapped in the survey. Over 90% of them practiced in the rural areas.

Table 2 shows that the private sector has three times as many qualified doctors as the public sector. Urban

Table 1
Rural and urban distribution of HCPs (by qualification) and in-patient beds in Madhya Pradesh, India

		Total	Rural (%)	Urban (%)
Qualified doctors		24807	5631 (22.7)	19176 (77.3)
Less than fully qualified (LTFQ	Qualified non-doctors	94019	67153 (71.5)	26866 (28.5)
	Trained birth attendants[†]	55393		
	Untrained[†]	89090		
No. of beds		49582	6249 (12.6)	43333 (87.4)

Definitions or urban and rural as per census of India 2001 [2].

[†] In the survey, over 90% of these categories of providers practiced in rural areas. However, it is likely that there are many more such providers in urban slums, but because they exist among more mobile populations, these have been difficult to capture in the survey. We have therefore not included the urban rural break ups for these categories.

Table 2
HCPs (by qualification) and in-patient beds per 100,000 rural and urban population in the public and private sectors in MP, India

	Per 100,000 total population			Per 100,000 rural population			Per 100,000 urban population		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
Qualified doctors	41.1	10	31	12.7	4.5	8.2	119.1	25	94
Qualified non-doctors	155.7	43.4	112.2	151.6	37.7	113.9	166.9	59.2	107.7
No. of beds	82.6	49.2	33.4	14.2	12.6	1.5	272.3	149.7	121.5

The distinction between public and private staff is possibly more blurred than presented in Table 2, as there is an overlap as some public providers practice privately after work hours. In a few villages, mobile health providers were described; they visit the village on a weekly or fortnightly basis on a bicycle/motorbike, but have other mainstream occupations otherwise. Such providers have not been captured by the survey.

populations are served by 120 doctors per 100,000 population as compared to 13 in rural areas.

Qualified non-doctors (paramedical staff) were on the whole 3.5 times as many as qualified doctors. Again most of these practiced privately. In rural areas, there were12 times as many paramedical staff as doctors. Public sector rural paramedical staff consisted mostly of health workers, while in the private sector they were barefoot doctors (trained), retired public sector staff, and some practitioners of ISMH.

3.2. Hospital beds

A total of 49582 in-patient beds were available in the province (1 bed: 369 urban population, 20 times higher than 1:7068 rural population). The public sector had 59.5% (29515) of the 49582 beds in the province. Urban areas had 272 beds per 100,000 population compared to 14 in rural areas. In urban areas, 54.9% of beds were in the public sector compared to 88.8% in rural areas.

3.3. Institutional set ups

Table 3 shows that the public sector owned most rural health centres and hospitals. Hospitals (68.3%), diagnostic facilities (90%), blood banks (96.9%) and pharmacies (70.9%) were concentrated in the urban areas, mostly in the private sector. Private solo out-patient clinics dominate the rural areas.

3.4. Reported systems of medicine practiced

Besides allopathy (Western medicine), Indian systems of medicine (which comprise ayurveda, sidhi, unani, etc.) and homeopathy (ISMH) are also given legal recognition. These coexist along with other traditional systems, and there is practice across systems especially among less than qualified providers. The 96.2% of in-patient facilities and 84.7% of health centres reported working in the allopathic system, the remainder worked in the ISMH system. However with solo practitioners in the private sector, 62.1% reported practicing allopathy, 4.2% ISMH and 32.6% reported working with traditional systems.

3.5. Commercial orientation of private providers

Of the 1137 private in-patient facilities, only 63 (5.5%) reported being not for profit. In terms of beds, 2167 of all 20,067 beds were not for profit (10.8%, this is because of two large charitable hospitals).

Table 3
Healthcare provision in rural and urban MP, by organizational set-up and ownership

Independent institutional set-ups	Total			Rural			Urban		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
Health centres/polyclinics	11354	10970	384	10528	10483	45	826	487	339
Hospitals/nursing homes	2260	1123	1137	714	657	57	1546	466	1080
Solo out-patient clinics	133412	0	133412	117319	0	117319	16093	0	16093
Blood banks	65	5	60	2	1	1	63	4	59

Health centres/polyclinics—out-patient facilities staffed by more than one medical/paramedical staff. Hospitals/nursing homes have in-patient beds. They may be general or speciality (e.g. cancer) hospitals. Solo out-patient clinics—Set-ups operated by a single provider. Blood banks—centres where blood is donated, stored and given out for transfusion.

With regard to individual private providers, of the 132,829 solo private providers who reported commercial orientation of their practices, 20,809 (15.6%) reported themselves as being not for profit. Half of these included untrained providers, and another third included trained rural paramedical staff (or JSR described below).

Though most private providers reported working for profit, they could use their discretion about waiving their fees for deserving clients.

4. Discussion

India has been known to have an extremely heterogeneous health system, with different systems of medicine being practiced by varyingly qualified providers in different kinds of practice set-ups in the public and private sectors in rural and urban areas. Though the dominance of the private health sector in India is known, the survey provides an empirical confirmation at provincial level, and more specifically describes the nature of the constituents of the private sector.

4.1. Historical perspective

India, at the time of independence (1947), a proclaimed socialist state, envisioned heavy state involvement in the financing and provision of health services. A tiered public health service, with an extensive network of rural health facilities was created based on the recommendations of the 1946 Bhore Committee Report [6]. The committee reviewed trends in the development of health care services in Britain and other countries, and concluded based on a ferment of post war ideas, the need for measures that would ensure social security for the people (health care in this case). Little attention was paid to the then small private healthcare sector (only 8% of health institutions at independence) [7].

The share of private healthcare however has been progressively increasing. The public health sector has faced a number of structural and financial constraints. Weak management, centralized planning and control of resources, political interference, segmentation of vertical programs, human resource limitations and low budgets have been reported [7]. The effect of weak public provision has been that a market-oriented private sector has progressively grown to fill the gap, becoming the dominant service provider. It would seem that private provision has developed as a substitute (to low public provision) rather than as a complement [8]. In 1998, a national sample survey reported 85% of primary healthcare contacts and 75% of all health expenditure in the private health sector [9].

4.2. Expenditure in the private health sector

The National Health Accounts for India, 2001–2002 [2] showed that 77.4% of total health expenditure in the country came from private sources (Table 4).

Most (93%) of overall private health expenditure came from private households. Out of pocket expenses for medical care accounted for 98.4% of private household health expenditure (a minimal 1.5% came from insurance premiums). Nearly half of this expenditure is paid out for primary curative care (Table 5).

Although much of this payment is for primary curative services, many of these are for diseases that are high on the government's priority list for public health intervention, such as diarrhea, childhood respiratory infections, malaria, tuberculosis, and sexually transmitted diseases. The oft-mentioned critique of private providers that they ignore preventive and public health services is partially true, but misleading [10].

Table 4
Total health expenditure in India, 2001–2002 [2]

Expenditure	Per capita (INR)	Percent of total health expenditure	Total health expenditure as % GDP
Public expenditure	207	20.3	0.94
Private expenditure	790	77.4	3.58
External support	24	2.3	0.11
Total health expenditure	1021	100	4.63

INR, Indian rupee (1 USD = 43 INR).

Table 5
Health expenditure incurred by households by level of health care [2]

Level of health care	Percentage of total household health expenditure
Primary	
Preventive services	12.3
Curative services	48.1
Secondary	24.1
Tertiary	15.5

4.3. Private providers of primary curative care

Private providers of primary curative services would include qualified doctors, qualified non-doctors and unqualified providers (the latter two categories referred to as 'Less than fully qualified' or LTFQ) practicing in solo out-patient set-ups. Most work on a fee for service and for profit basis. Other studies in different parts of India [11] on who is the rural 'doctor' revealed that the vast majority of rural providers (over 80%) were not legally qualified doctors of any system.

From our survey, if the LTFQ group of rural practicing providers were further analysed, they could be categorized into trained birth attendants, unqualified providers and qualified paramedical staff. Trained birth attendants have had a few days to a few weeks of training and assist in home deliveries. Unqualified providers, who have a significant presence in the rural areas, include those who are popularly called RMPs or 'registered medical practitioners'. (The name 'RMP' is a remnant from an erstwhile scheme of licensing 'RMPs' after a formal training period that the government discontinued in the 1960s). Present day 'RMPs' have mostly picked up their skills through a 2–5 year apprenticeship with a senior qualified doctor/RMP, (sometimes a relative) or at a nearby nursing home. A good proportion of them have acquired a 'legitimising' distance education certificate in ayurveda, integrated ayurveda–allopathy or alternative systems [12]. A large number of qualified paramedical staff are accounted for mainly by the barefoot doctors or JSRs (Jan Swasth Rakshaks translates as 'protectors of the peoples health' in Hindi) [13]. These are educated rural youth, who are elected by the village local government to be trained for 6 months at district level by the state government. The premise was that the JSR would set up a private practice in the village to provide basic primary health care and referral services, though they effectively function like RMPs providing primary curative services.

JSRs, RMPs and other LTFQs provide a range of curative services to rural people. In spite of technical inadequacy [14] the lack of qualified doctors willing to provide similar services in these areas (13 doctors per 100,000 people in our survey) is a serious constraint. Opinions vary on whether these providers are assets and help increase access to health care or if they are exploitative providers cashing in on a failure of government health care provision. While they reach the poor and address many priority public health problems, and have the advantage of experience (with RMPs), training (with JSRs), local relationships and trust, they also are associated with some important negative characteristics. The major problems are the technical quality of the health care they provide, and the regressive financial burden their fee-for-service charges place on low income families [10].

4.4. Human resources

The world health report 2006 [15] and other publications [16] have discussed the shortage of health manpower. Concern is expressed over the migration of health workers from many low income countries, including India [16]. In MP though, an absolute shortage of health manpower seems not so much the problem, as the distribution (urban–rural) of this resource within the province and the quality of care provided. From our survey, on average, the province has 41 qualified doctors per 100000 population. (The Indian average is 51 [17]). This is as high as/higher than the 43 doctors/100,000 persons in Sri Lanka, the 30/100,000 in Thailand, or the 16 doctors/100,000 in Indonesia. Yet, IMR and MMR are significantly lower in these countries [17] relative to MP (IMR in MP stands at 79/1000, the highest in India). While the internal distribution of manpower varies in each of these countries, in MP there is a perverse distribution of qualified doctors. Urban MP's 120 doctors/100,000 is comparable to Singapore (140/100,000 [17]), a country with a high human development index (HDI) rank. Rural MP's 12/100,000 compares with Djibouti and Guinea-Bissau, countries with a much lower HDI rank than India.

The disparity between rural and urban health indicators mirrors the poor access because of the scant availability of qualified care in rural areas, compounded by poor rural infrastructure, and existing poverty levels. IMR in rural areas is 84 versus 56 in urban areas [5]. Nearly half (44.2%) of pregnant rural women in MP have never had any antenatal check up compared to 17.9% of urban women. Most (88.8%) newborns in rural areas have not been weighed at birth [18].

The public sector has tried to promote physicians serving in rural areas. A compulsory period of rural service for fresh medical graduates [19] was introduced. Economic incentives for doctors appointed on contract were initiated under the Reproductive and Child Health Program. But the schemes have met with limited success because of the unwillingness of qualified doctors to take up rural placements. From the physicians' perspective, the reluctance is largely because of the lack of infrastructure, poor educational facilities, little opportunity for professional growth and social interaction, besides more lucrative opportunities in the private sector. The original Bhore Committee Plan drawn up at India's independence [6] was to have 6 doctors per 10,000 population, close to the WHO recommendation of 1 doctor per 1500 population. This would imply having 40,000 doctors equitably distributed in the province. From the results of the survey, this represents a total short fall of 15,000 doctors. Annually, between 800 and 1000 qualified doctors graduate in the province [20]. Without discounting for exits from the health workforce or population growth, it would take 15 years to fill the current short fall.

The state needs to look at the available options for the medium term future. Given the levels of consumption of private primary curative services, the large pool of LTFQs, providing these services needs to be considered more inclusively. It is imperative that the merits of these providers are further strengthened and utilized. The possibility of training, accrediting and regulating the large pool of rural qualified paramedical staff, in delivering basic antenatal, natal, new born care and the management of common ailments in infants and children must be seriously considered. However there has been little practical experience in India in this direction. While there has been some experience with private-sector contracts for primary health care especially in the area of tuberculosis control [21,22], most other experiences come from the developed world with relatively strong public health systems [23].

5. Conclusion

Given that there is such a large established private sector in the province, it has been advocated that the state needs to move towards constructive oversight [24], the public sector needs to find a balance between direct provision of services where necessary and new roles in coordination and regulation (of the entire health sector—public and private). The state needs to take a lead with good governance, and forge viable partnerships with the dominant private sector to ensure equitable health outcomes for all people. It needs to develop methods and experience needed to improve and strengthen the existing private supply and to integrate that capacity in achieving public goals.

An assessment of the size, composition, and activities of private providers is needed at provincial and national level as a first step. This survey attempted to map the size and composition of the private sector in one province. It has been the first time in the country that a survey of all healthcare provision in an entire province has been empirically carried out. The survey mapping is available at the provincial directorate of health services in Bhopal. Further studies in collaboration with the local universities in the province to assess knowledge and skills to manage common conditions of public health importance, utilization patterns for various illnesses and health seeking behaviour analyses need to be planned.

Acknowledgements

Danida supported MP Basic Health Services Program, Department of Health and Family Welfare, Bhopal, India. Swedish International Development Assistance, Stockholm.

Contributors: Both authors contributed to the fieldwork, analysis and write-up of the paper.

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