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Mapping Medical Providers in Rural India: Four Key Trends

The MAQARI Team

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CPR POLICY BRIEF

Policy discussions – both within India and more globally – have referred to acute shortages of health workers in rural areas. The Medical Advice, Quality, and Availability in Rural India (MAQARI) project implemented detailed surveys in more than 1,600 villages across the 19 most populous states of India (see map) between 2009 and 2010 to explicitly quantify the number of medical providers available to average rural households.

> In this study, any practitioner that served as a primary point of contact for the diagnosis and treatment of general illnesses was classified as a medical provider, regardless of their qualifications. This also includes public sector paramedical staff such as ANMs, ASHA workers and MPWs.

In this brief, we present the first nationally-representative estimates of medical provider availability in rural India and quantify four trends well-known to those working in India's rural health sector.

1 The availability of medical providers in rural India is quite high: *6 per person*

Table 1 shows provisional results for the number of healthcare providers available to an average person in 1,520 villages, with an average population of 3,498, chosen randomly after geographic stratification from the 19 most populous Indian states. There are nearly 6 healthcare providers available for the average rural Indian. The states display considerable heterogeneity; the total number of providers per village varies from 2.72 (1.73 doctors) in Himachal Pradesh to 13.44 (7.33 doctors) per village in Chhattisgarh. While it is possible that there are more providers in states where disease burdens are higher (and the demand for medical care could be greater), states with lower infant mortality rates display lower numbers of providers.

Fig: The map shows all states covered in the study

In rural Madhya Pradesh, the MAQARI project implemented more detailed surveys in a separate sample of 100 villages, with an average population of 1,149, which can add important

detail to the nation-wide numbers. First, the MP study expanded the notion of village health markets beyond sample village boundaries to include adjacent villages where the local population also seeks care. Second, the study collected information from households on the providers they last visited. Table 2 demonstrates the importance of the more flexible market boundaries. Accounting for providers outside the village increases the number of providers available to the average person in rural MP from 7.14 to 11.9.The average population in these 100 villages was *lower* than in the all-India sample, which suggests that including providers outside (but close to) the village dramatically increases available choices.

2 **Private providers are the majority, by a wide margin:** *more than 50% are private providers*

Tables 1 and 2 also show that more than half of all providers (3.21 per village) are private, less than 10 percent (0.34 per village) are public doctors, and 40 percent (2.3 per village) are public paramedical staff. The ratio of public to private doctors is 1:10 for all of India and ranges from 1.50 in Jharkhand to 1:1 in Kerala.

3 **The majority of practicing providers have no medical qualifications:** *65% have no formal medical training*

In MP, surveys also asked providers about their medical training and qualifications. Among all primary care providers (including paramedical staff), 76 percent have no formal training. Among providers that identify themselves as doctors, 65 percent report no formal medical training, 25 percent have a degree from an indigenous system of medicine such as the BIMS, BAMS, or BUMS, and 10 percent report an MBBS degree.

4 **Most households visit private doctors and doctors with no medical qualifications:** *92% went to private providers, 79% to unqualified providers*

More striking are the usage patterns from the household data in MP. Of the 114,915 people surveyed, 23 percent reported a visit to a health provider in the month preceding the survey. Nineteen percent of these visits were to public paramedical staff. Of the remaining 81 percent, 92 percent were to providers in the private sector and of these, 79 percent were to doctors without a qualification. Therefore, of every 100 visits in rural MP, 8 visits are to the public sector and 70 are to untrained private sector doctors. Even among the poorest 20 percent of households, 61 percent of visits are to providers in the private sector.

We need to examine provider quality

While noteworthy, these figures only tell us about the dominant sources of care that the average person in a rural household can access. They do not provide any indication of the *quality* of care received or whether households are more likely to visit higher quality providers - undeniably two pieces of information necessary to determine how to intervene to improve the delivery of health services and final health outcomes of the average person. The MAQARI project is also directly measuring provider competence and the quality of clinical interactions through medical vignettes, participant observations, patient exit interviews, and standardized patients. Future briefs in this series will present results from these surveys.

Table 1. Availability of Healthcare Providers Within a Village to an Average Person

State	Number of Providers by Provider Type					State Indicators	
	Private Providers	Public Doctors	Public Other	Total	Ratio of Public Doctor to Private Providers	Per capita Income in 2004-2005 (Rs.)	Under 5 Mortality Rate (deaths per thousand)
Andhra Pradesh	2.10	0.22	2.67	5.05	1:9	23729	63.20
Assam	1.59	0.12	2.03	3.94	1:14	16825	85.00
Bihar	5.51	0.13	0.21	6.21	1:42	7467	84.80
Chhattisgarh	6.94	0.39	5.85	13.44	1:18	18068	90.30
Gujarat	1.19	0.25	3.49	4.97	1:5	29468	60.90
Haryana	5.60	0.51	3.63	9.95	1:11	35044	52.30
Himachal Pradesh	1.45	0.28	0.98	2.72	1:5	31140	41.50
Jharkhand	3.03	0.06	0.58	3.76	1:50	17493	93.00
Karnataka	1.22	0.29	1.22	2.75	1:4	24199	54.70
Kerala	1.78	1.55	0.43	3.97	1:1	27864	16.30
Madhya Pradesh	2.87	0.24	3.83	7.14	1:12	14534	94.20
Maharashtra	1.60	0.15	2.41	4.19	1:10	32989	46.70
Orissa	2.00	0.23	2.91	5.2	1:9	16306	90.60
Punjab	4.01	0.46	0.37	4.95	1:9	33158	52.00
Rajasthan	2.82	0.55	4.00	7.44	1:5	16800	85.40
Tamil Nadu	0.97	0.11	1.66	2.76	1:9	27137	35.50
Uttar Pradesh	4.07	0.37	1.73	6.31	1:11	11941	96.40
Uttaranchal	1.88	0.19	3.51	5.61	1:10	22093	56.80
West Bengal	9.24	0.25	1.39	10.93	1:37	22522	59.60
India	**3.21**	**0.34**	**2.31**	**5.97**	**1:10**	**22946**	**66.27**

Notes:

1) "Private Providers" include all private practitioners and a wide range of qualifications and practice. The second category includes public doctors who are formally recognized by the government and generally possess an MBBS degree. The final category, "Public Other" comprises of all public paramedical staff (GNMs, ANMs, MPWs, etc.)

2) Per capita income is in 2008 prices, Source: Planning Commission (2008)

3) Source for Under 5 Mortality Rate: National Family Health Survey 3 (2005-2006), 0-4 years prior to the survey

Table 2. Availability of Healthcare Providers Within a Market to an Average Person

District	Number of Providers by Provider Type				
	Private Providers	Public Doctors	Public Other	Total	Ratio of Public Doctors to Private Providers
Gwalior	12.55	0.60	4.50	19.25	1:21
Shahdol	4.85	0.80	2.45	8.45	1:6
Rajgarh	4.65	0.80	2.75	8.75	1:6
Jhabua	9.15	0.45	2.30	13.05	1:20
Chhindwara	6.10	0.55	3.20	10.00	1:11
Madhya Pradesh	7.46	0.64	3.04	11.90	1:12

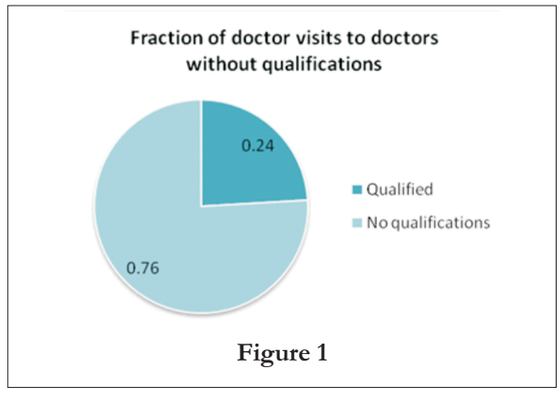

Figure 1

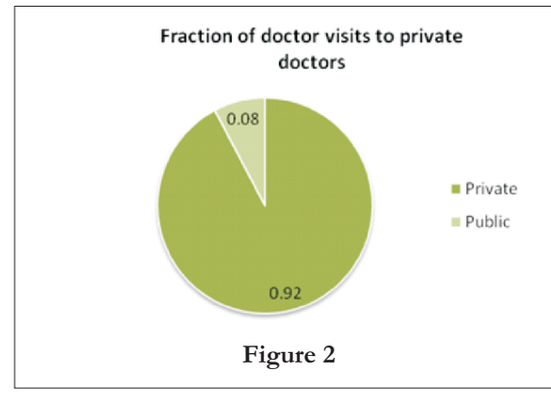

Figure 2

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Further Reading: Please see first brief in series (June 2010) at www.cprindia.org

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