

Improving Access and Efficiency in Public Health Services: Mid-Term Evaluation of India's National Rural Health Mission

Progress of NRHM so Far

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Progress of NRHM so Far

1. Data Sources and Basic Limitation

OUT OF the seven years of the NRHM from 2005–06 to 2011–12, four years have passed and the timelines for all major components of the program as explicitly stated in the NRHM Mission Document (2005) have passed. It is, therefore, a good time for stock-taking. In this section, we consider readily available secondary data to examine the progress made in NRHM in terms of the major components, strategies, institutional mechanisms, and impact on health outcomes. The secondary sources of data consist of (*a*) District Level Health Surveys (DLHSs) regularly conducted every 4–5 years since 1998, (*b*) National Family Health Surveys (NFHSs) conducted regularly, (*c*) Sample Registration System (SRS) surveys conducted regularly every 4–5 years, and (*d*) NRHM-MIS data available on the Ministry of Health website representing the latest available position (December, 2008). Most of these data are readily available at the state level and also at the district level. Since primary healthcare is a state subject in India, and since NRHM strategy also considers states as high or non-high focus, we consider states as the unit of analysis.

2. Performance of NRHM by Major Components

Since NRHM primarily represents architectural improvements in the public health system in the rural areas, we review the performance of the Mission at different levels starting from the bottom. Thus, we have the major components of NRHM as:

- 1. Village level—Trained ASHA with drug kit and VHSC.
- 2. Sub-center level—ANM and number of villages handled.
- 3. PHC level—24-hour PHCs and AYUSH.
- 4. CHC level—FRu and staff nurses on contract.
- 5. District level—NRHM Fund and RKS.
- 6. State level—NRHM budget allocation.

Against these program inputs, there are health outputs and outcome indicators to be considered. We first carry out the performance review by all these levels.

It is important to note here that methodologically the correct assessment of impact of an intervention is by comparing the situations *with and without* the intervention rather than *before and after* the intervention. This is because if a particular health indicator was improving over time when the intervention was not made, there are all possibilities that it would have continued improving even in the absence of the intervention. Therefore, the intervention would be productive only when the rate of improvement observed in the past accelerates when the intervention is made. If, on the other hand, the rate of improvement falls, the intervention in all probabilities has not succeeded or has proved counterproductive even when the indicator shows improvement in absolute terms on the face of it. The usual analysis without realizing this methodological issue can be seriously misleading. Fortunately, for most of the health output/outcome indicators, we have data on three points of time so that we can extrapolate linearly the value from the first two points to compare it with the observed value at the third point. For example, DLHS-1 data pertain to 1998–99, DLHS-2 data to 2002–04; and DLHS-3 data to 2007–08. In this case, the extrapolated value based on the assumption of the linear trend continuing in 2007–08 would be:

$$E(X_3) = X_2 + (4/5) (X_2 - X_1) = 1.8X_2 - 0.8X_1$$

Now if X₃ is compared with $E(X_3)$, we can say whether NRHM has made a positive or negative impact on the indicator. For this purpose, a simple comparison of X₃ with X₂ is not valid.

2.1. At Village Level

Since trained ASHA is the most critical element in the NRHM where Government of India has agreed to meet her costs of training and incentives, the progress of NRHM can be viewed in terms of presence of trained ASHA per 1000 rural population (as on December, 2008) and the health output and outcome indicators for different states. <u>Tables 3.1</u> to <u>3.5</u> provide this assessment. It can be observed from the tables that in nine High Focus State (HFS), the number of trained ASHA per 1000 rural population is more than one. Except in Himachal Pradesh, this number is very close to one. However, in the Non-High Focus States (NHFS), the number of trained ASHA seems to have achieved reduction in regional disparity in basic health infrastructure at the village level. <u>Table 3.6</u> provides time profile of selection of ASHA in different states beginning from 2005–06 to 2008–09. It also provides the NRHM Fund utilization rate by years.

Table 3.1 ASHA and Percentage of Women Taking at least Three ANC Checkups

	Total number of ASMA trained nor	Women taking at least 3 ANC checkups (%)			Extrapolated %, of	Charles la sublide la base	
Names of states	1000 rural population (Dec 2008)	DLHS 1	DLHS 2	DLHS 3	3ANCs without NRHM	improved (1), and worsened (0)	
High Focus States							
Bihar	0.91	16	16	26.4	16	1	
Chhattisgarh	1.96	38.5	44.4	51.2	49.12	1	
Himachal Pradesh	0.41	57.2	64.9	59.4	71.06	0	
Iharkhand	1.38	27.5	27.5	30.9	27.5	1	
Madhya Pradesh	1.06	26	32.3	34.2	37.34	0	
Orissa	1	43.7	41.7	54.6	40.1	1	
Rajasthan	0.81	28.3	28.8	27.7	29.2	0	
Uttar Pradesh	0.89	19.6	21.5	21.9	23.02	0	
Uttarakhand	1.39	19,3	21.2	32.3	22.72	1	
Assam	1.01	29.2	39.4	45.1	47.56	0	
Meghalaya	2.55	33,5	42.8	39,4	50.24	0	
Mizoram	1.58	66.6	54	62.6	43.92	1	
Sikkim	0.93	40.6	66.7	69.9	87.58	0	
Tripura	2.34	51	62.7	44	72.06	0	
Non-High Focus States							
Andhra Pradesh	0.14	87.5	86	89.4	84.8	1	
Chandigarh	(H) (H)	73	73.6	77.6	74.08	1	
Delhi	2.1	77.2	67.2	71.6	59.2	1	
Goa	-	95.2	84.3	95.8	75.58	1	
Gujarat	0.18	55	57.3	54.9	59.14	0	
Haryana	-	41.3	43.1	51.9	44.54	1	
Karnataka	0,48	78	78.6	81.6	79.08	1	
Kerala	0.02	98.3	96.5	95.3	95.06	1	
Maharashtra	0.13	65.8	69.2	74.5	71.92	1	
Puducherry	-	95,8	97.8	87,8	99.4	0	
Punjab	-	56.4	63.5	64.6	69,18	0	
Tamil Nadu	-	94.2	94	95.6	93.84	1	
West Bengal	0.18	55.4	62.7	67	68.54	0	

Sources: District Level Household Surveys

DLHS-1 (1998-99)

DLHS-2 (2002-04)

DLHS-3 (2007-08),

Note: In six HFS, NRHM has resulted in the desired output of increasing the percentage of women taking at least 3 ANC checkups. NRHM has worked much better in the NHFS.

Table 3.2 ASHA and Immunization Rate among Children

		Fully immunized children in %			100000000000000000000000000000000000000	PERSONAL TRANSPORT
Names of states	Total number of ASHA trained per 1000 rural population (Dec 2008)	DLHS 1	DLHS 2	DLHS 3	Extrapolated immunization rate without NRHM	States in which it has improved (1), and worsened (0)
High Focus States						
Bihar	0.91	20.7	20.7	41.4	20.7	1
Chhattisgarh	1.96	56.9	56,9	59.3	56,9	1
Himachal Pradesh	0.41	74.4	79.3	79,3	83.22	0
Jharkhand	1.38	25.7	25.7	54.1	25.7	1
Madhya Pradesh	1.06	30.4	30.4	36.2	30.4	1
Orissa	1	57.8	53.3	62.4	49.7	1
Rajasthan	0.81	37.1	23.9	48.8	13.34	1
Uttar Pradesh	0.89	25.8	25.8	30.3	25.8	1
Uttarakhand	1.39	44.5	44.5	59.8	44.5	1
Assam	1.01	46.7	16	48	-8.56	1
Meghalaya	2.55	32.7	13.5	27.6	-1.86	1
Mizoram	1.58	68.4	32.6	50	3,96	1
Sikkim	0.93	65.6	52.7	77.8	42.38	1
Tripura	2.34	46.3	32.6	38.9	21.64	1
Non-High Focus States	2004					
Andhra Pradesh	0.14	74.5	62	67.1	52	1
Chandigarh		61.5	53.5	71.7	47.1	1
Delhi	2.1	84.8	59.2	70.8	38.72	1
Goa	-	88.6	76.9	93.4	67.54	1
Gujarat	0.18	58.1	54	52.5	50.72	1
Haryana		66	59.1	63.6	53.58	1
Karnataka	0.48	71.8	67.8	76.7	64.6	1
Kerala	0.02	84	78.5	79,5	74.1	1
Maharashtra	0.13	79.7	70.9	74	63.86	1
Puducherry	-	95,3	89.3	80.4	84.5	0
Punjab	-	72.9	72.9	79.9	72.9	1
Tamil Nadu	-	91.5	91.4	83.2	91.32	0
West Bengal	0.18	51.5	5,3	75.8	-31.66	1
Sources: District Level House DLHS-1 (1998–99)	hold Surveys					

DLHS-2 (2002-04)

DLH5-3 (2007-08). Note: All states except Himachal Pradesh among the HFS and Tamil Nadu among NHFS have been positively impacted by NRHM in terms of increasing the rate of fully immunized children.

Table 3.3 ASHA and Institutional Delivery Rate

	Total number of ASHA trained	Institutional delivery			Extrapolated Institutional	States in which it has	
Names of states	per 1000 rural population (Dec 2008)	DLHS 1 (X1)	DLHS 2 (X2)	DLHS 3 (X3)	delivery without NRHM (X3)#	improved (1), and worsened (0)	
High Focus States							
Bihar	0.91	14.9	18.8	27.7	21.92	1	
Chhattisgarh	1.96	10.9	18.1	18.1	23.86	0	
Himachal Pradesh	0.41	31.7	45.1	48.2	55.82	0	
Iharkhand	1.38	17.3	21.2	17.8	24.32	0	
Madhya Pradesh	1.06	21.5	28.7	47.1	34.46	1	
Orissa	1	23.4	30.8	44.3	36.72	1	
Rajasthan	0.81	22.5	30.3	45.5	36.54	1	
Uttar Pradesh	0.89	16.2	21.4	24.5	25.56	0	
Uttarakhand	1.39	18.8	24	30	28.16	1	
Assam	1.01	23.8	23.2	35.3	22.72	1	
Meghalaya	2.55	33.4	32.5	24.4	31.78	0	
Mizoram	1.58	58.9	52.6	55.9	47.56	1	
Sikkim	0.93	32.3	57.8	49.8	78.2	0	
Tripura	2.34	46.1	61.1	46.3	73.1	0	
Non-High Focus States		100	00000				
Andhra Pradesh	0.14	50.6	59.4	71.8	66.44	1	
Chandigarh		67.7	47.4	76.1	31.16	1	
Delhi	2.1	70	50	68.6	34	1	
Goa		93.8	91.2	96.3	89.12	1	
Gujarat	0.18	46.1	52.2	56.5	57.08	0	
Harvana		25.7	35.7	46.9	43.7	1	
Karnataka	0.48	50	57.9	65.1	64.22	1	
Kerala	0.02	97	97.6	99,4	98.08	1	
Maharashtra	0.13	57.1	57.9	63.6	58.54	1	
Puducherry		92.2	97.2	99.1	100	0	
Punjab	1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	40.5	48.9	63.3	55.62	1	
Tamil Nadu		78.8	86.2	94.1	92.12	1	
West Bengal	0.18	38.9	47	49.2	53,48	0	
Sources: District Level Ho DLHS-1 (1998-9 DLHS-2 (2002-0	usehold Surveys 9) 44)						

DLHS-3 (2007-08). Note: NRHM is successful in 7 HFS and all except Gujarat and West Bengal among NHFS in increasing the rate of institutional deliveries.

Table 3.4 ASHA and Infant Mortality Rate (IMR)

Names of states	Total number of ASHA trained per 1000 rural population (Dec 2008)	IMR for 1999 (SRS) (X1)	IMR for 2003 (SRS) (X2)	IMR for 2007 (SRS) (X3)	Extrapolated IMR without NRHM (X3*)	States where it has improved (1), and worsened (0)
High Focus States						
Bihar	0.91	63	60	58	57	0
Chhattisgarh	1.96	78	70	59	62	T.
Himachal Pradesh	0.41	62	49	47	36	0
Jharkhand	1.38	71	51	-48	31	0
Madhya Pradesh	1.06	90	82	72	74	1
Orissa	1	97	83	71	69	0
Rajasthan	0.81	81	75	65	69	1
Uttar Pradesh	0.89	84	76	69	68	0
Uttarakhand	1.39	52	41	48	30	0
Assam	1.01	76	67	66	58	0
Meghalaya	2.55	56	57	56	58	1
Mizoram	1.58	19	16	23	13	0
Sikkim	0.93	49	33	34	17	0
Tripura	2.34	42	32	39	22	0
Non High Focus States						
Andhra Pradesh	0.14	66	59	54	52	0
Chandigarh	- 1	28	19	27	10	0
Delhi	2.1	31	28	36	25	0
Goa	-	21	16	13	11	0
Gujarat	0,18	63	57	52	51	0
Haryana		68	59	55	50	0
Karnataka	0.48	58	52	47	46	0
Kerala	0.02	14	H	13	8	0
Maharashtra	0.13	48	42	34	36	1
Puducherry		22	24	25	26	1.
Punjab	-	53	49	43	45	1
Tamil Nadu		52	43	35	34	0
West Bengal	0.18	52	46	37	40	1
Sources: Sample Registration SRS-1 (2000) for 1 SRS-2 (2005) for 1	on Systems IMR 1999 IMR 2003					

SRS-3 (2007) for IMR 2007.

Note: NRHM is successful in only four HFS and only three NHFS in reducing IMR. In the rest of the states it has not been successful. Even for those states where it has succeeded in reducing IMR, it is nowhere near the targeted rate of decline.

Table 3.5 ASHA and Unmet Need of Health Infrastructure

	Total number of ASHA trained	Unme	et need@		
Names of states	per 1000 rural population (Dec 2008)	DLHS 2	DLHS 3	Increase (+)/Decrease (-) (between DLHS 2 and 3)	
High Focus States					
Bihar	0.91	38.3	37.2	-1.1	
Chhattisgarh	1.96	22.1	20.9	-1.2	
Himachal Pradesh	0.41	11.8	15.6	3.8	
Iharkhand	1.38	34.2	34.7	0.5	
Madhya Pradesh	1.06	21.2	19.3	-1.9	
Orissa	1	19.8	24	4.2	
Rajasthan	0.81	22.1	17.9	-4.2	
Uttar Pradesh	0.89	34.3	33.8	-0.5	
Uttarakhand	1.39	26.9	22.5	-4.4	
Assam	1.01	23.6	26.1	2.5	
Meghalaya	2.55	55.3	38	-17.3	
Mizoram	1.58	25	16.7	-8.3	
Sikkim	0.93	18.2	16.1	-2.1	
Tripura	2.34	24.8	14.4	-10.4	
Non High Focus States	40.000				
Andhra Pradesh	0.14	10.7	8.5	-2.2	
Chandigarh		15.3	9.3	-6	
Delhi	2.1	16.4	14.9	-1.5	
Goa		43.1	28.8	-14.3	
Guiarat	0.18	16.3	20.1	3.8	
Haryana		14.7	16.3	1.6	
Karnataka	0.48	15.1	15.8	0.7	
Kerala	0.02	15.1	16.8	1.7	
Maharashtra	0.13	12.6	15.6	3	
Puducherry	-	16.6	19.8	3.2	
Puniab		10.3	13.7	3.4	
Tamil Nadu	-	18.1	19.4	1.3	
West Bengal	0.18	11.2	11.6	0.4	
Sources: District Level Household DLHS-2 (2002–04)	Surveys				

DLH5-3 (2007-08) Note: Data for unmet need for DLHS 1 not available. NRHM is unsuccessful in 4 HFS, whereas it is successful in 4 NHFS. However, the unmet needs in NHFS are substantially less than in HFS. Since DLHS-1 did not report data on unmet needs, the comparison is 'before and after' rather than 'with and without' NRHM.

Table 3.6 Performance of NRHM: ASHA and Fund Utilization

		% of ASHAs selec	ted in various years	Utilization			
Names of states	2005-06	2006-07	2007-08	2008-09	2005-06	2006-07	2007-08
High Focus States							ARRAY CO.
Bihar	54.70	32.62	12.68	0	64.95	59.29	92.64
Chhattisgarh	17.09	82.91	0.00	0	71.32	82.87	84.89
Himachal Pradesh	0.00	0.00	100.00	0	56.33	64.52	104.21
Jammu and Kashmir	28.40	68.90	2.70	0	62.58	44.19	46.29
Iharkhand	3.57	33,72	61.50	1.22	44.41	67.04	76.94
Madhya Pradesh	38.87	35.96	20,80	4.37	52.63	78.39	102.64
Orissa	37.17	62.83	0.00	0.00	59.23	72.55	74.18
Rajasthan	49,49	34.95	8.41	7.14	58.41	65.14	85.10
Uttar Pradesh	15.03	75.71	7.33	1.93	61.65	61.04	70.94
Uttarakhand	41.36	42.17	16.47	0.00	41.53	47.11	85.91
Arunachal Pradesh	48.08	36.56	13.31	2.05	50.70	57.58	101.65
Assam	34.54	62.31	3.15	0.00	24.97	53.67	91.19
Manipur	0.00	100.00	0.00	0.00	36.35	46.56	64.77
Meghalaya	0.00	89.03	0.00	10.97	29.46	47.85	43.99
Mizoram	0.00	71.47	28.53	0.00	37,10	63.49	130.88
Nagaland	0.00	75.18	1.82	23.00	47.28	84.34	92.92
Sikkim	0.00	81.52	18.48	0.00	45.36	30.48	49.29
Tripura	0.00	18.44	60.06	21.50	58.42	56.31	42.77
Average High Focus	28.55	55.06	14.10	2.29	56.54	63.88	81.61
Non-High Focus States	0.00		1000	200.000		10000	10000
Andhra Pradesh	0.00	100,00	0.00	0.00	78.52	79.19	80.30
Goa	-	-	-		41.86	78.78	74.61
Gujarat	0.00	16.11	83,89	0.00	51.30	69.08	90,52
Haryana	-	-	- 1	-	63,29	67.31	80,30
Karnataka	0.00	16.14	0.00	83.86	62.25	56.31	105.11
Kerala	0.00	0.00	100.00	0.00	52.73	62.27	74.95
Maharashtra	0.00	0.00	96.61	3,39	57.43	43.89	74.18
Punjab	-	-	-	-	62.27	69.05	93,69
Tamil Nadu	-	-	-	-	65.21	76.75	67.22
West Bengal	(m)		-	-	62.98	80.31	81.89
Average Non-High Focus	0	30.02	32.62	37.36	62.41	68.22	85.35

Source: NRHM - MIS.

Notes: 1. Utilization of NRHM funds = Expenditure/Amount released by Gol.

2. ASHAs were appointed in a major way in the first two years in HFS, whereas in NHFS in the later two years. NRHM Fund utilization improved substantially in all states except l&K and Tripura from the HFS category. NRHM strategy seems to be working on the whole to improve the utilization of funds at least.

2.2. At Sub-Center Level

At the sub-center level, the role of ANM is crucial. The main health service she provides is for immunization of children and conducting safe deliveries. <u>Table 3.7</u> provides the NRHM-MIS data on the average number of villages per ANM, the number of sub-centers without ANMs as a percentage of the total sub-centers in a state, the rate of full immunization, and the rate of institutional deliveries as per the DLHS-3 data for the year 2007–08. It is expected that the higher the number of villages handled by an ANM, the lower will be the rates of immunization and institutional deliveries. Similarly, the greater the proportion of sub-centers without ANM, the lower will be the rates of immunization and institutional deliveries.

Names of states	Average number of villages handled by ANMs	Number of sub-centers not having ANMs as a percentage of total sub-centers	Full Immunization (%) DLHS-3	Institutional delivery (%) DLHS-
High Focus States				
Bihar	4	13.88	41.4	27.7
Chattisgarh	6	30.46	59.3	18.1
Himachal Pradesh	-11	11.35	79.3	48.2
Jammu and Kashmir	4	15.89	-	0.70
Iharkhand	4		54.1	17.8
Madhya Pradesh	6	2.76	36.2	47.1
Orissa	8	0.00	62.4	-44.3
Rajasthan	3	0.00	48.8	45.5
Uttar Pradesh	6	15.58	30.3	24.5
Uttarakhand	10	9.12	59.8	30.0
Arunachal Pradesh	14	26.39		
Assam	3	1.57	48.0	35.3
Manipur	3	0.00		
Meghalaya	14	0.00	27.6	24.4
Mizoram	1	0.00	50.0	55.9
Nagaland	3	24.43		
Sikkim	3	0.00	77.8	49.8
Tripura	1	10.19	38,9	46.3
Non-High Focus States				
Andhra Pradesh	2	17.57	67.1	71.8
Goa	2	0.58	93.4	96.3
Gujarat	3	2.79	52.5	56.5
Haryana	2	31.15	63.6	46.9
Karnataka	4	13.69	76.7	65.1
Kerala	0.3	1.02	79.5	99.4
Maharashtra	4	22.51	74.0	63.6
Punjab	6	19.87	79.9	63.3
Tamil Nadu	2	0.00	83.2	94.1
West Bengal	4	4.40	75.8	49.2

Table 3.7 ANM and Rates of Immunization and Institutional Deliveries

Note: Average number of villages handled by ANM is higher in HFS than NHFS. Similarly sub-centers without ANM are proportionately higher in HFS than NHFS on the whole. NRHM has not succeeded in removing the regional imbalance in the health infrastructure at least at the sub-center level.

2.3. At PHC Level

The major intervention at PHC level by NRHM is that it provides for a substantial increase in the number of PHC working for 24 hours a day by providing necessary infrastructure and manpower in terms of additional doctor with AYUSH background. The NRHM-MIS data about the patients utilizing OPD services at PHC are

not complete with several HFS and NHFS not reporting these data. <u>1 Tables 3.8</u> and <u>3.9</u> provide the assessment from the available data. <u>Table 3.8</u> provides data on number of 24-hour-per-day PHCs per 100,000 population as a percentage of rural population in 2007–08 for different states. It is expected that the higher the number of round-the- clock PHCs, the higher would be the rate of institutional deliveries and the patients admitted in PHCs.

Table 3.8 Round-the-Clock PHCs, Patients Admitted in PHCs, and Institutional Deliveries

Names of states	Number of 24 by 7 PHC per 100,000 population	Institutional delivery % (DLHS 3)	Patients ad- mitted in PHC as % of rural population in 2007–08
High Focus States			

Bihar	0.85	27.7	0.81
Chhattisgarh	3.64	18.1	0.29
Himachal Pradesh	3.31	55.82	0.00
Jammu and Kashmir	1.51	-	0.23
Jharkhand	1.09	17.8	0.00
Madhya Pradesh	1.38	47.1	1.40
Orissa	0.58	44.3	1.42
Rajasthan	1.58	45.5	0.00
Uttar Pradesh	0.67	24.5	0.00
Uttarakhand	1.31	30	0.09
Arunachal Pradesh	8.85	-	0.00
Assam	1.56	35.3	0.00
Manipur	1.62	-	0.03
Meghalaya	0.34	24.4	0.29
Mizoram	8.41	55.9	2.90
Nagaland	2.49	-	0.00
Sikkim	4.80	49.8	0.64
Tripura	2.77	46.3	1.78
Average	1.16	37.32	0.41
Non-High Focus States			
Andhra Pradesh	1.71	71.8	1.46
Goa	3.00	96.3	1.71
Gujarat	0.81	56.5	0.50
Haryana	1.22	46.9	0.11
Karnataka	3.28	65.1	0.00
Kerala	1.33	99.4	0.50
Maharashtra	1.38	63.6	0.48
Punjab	0.99	63.3	0.00
Tamil Nadu	6.63	94.1	1.92
West Bengal	0.96	49.2	0.10

Average	1.98	70.62	0.63
Source: District Level Household Survey			
DLHS-3 (2007–08).	-		
<i>Note:</i> Number of 24 hours/day PHCs is on an average less in HPS than in NHFS. Patients admitted in PHCs are also on an average less in HPS than in NHFS. NRHM has not been able to remove the regional imbalance in health infrastructure at PHC level.	-		
Table 3.9 AYUSH Doctors and PHC OPD Services	_		
Name of states		Ratio of number of AYUSH doctors to total num- ber of PHCs	Patients utiliz- ing PHC OPD services as per- centage of rural population (2007–08)
High Focus States			
Bihar		-	14.63
Chhattisgarh		0.43	11.39
Himachal Pradesh		-	-
Jammu and Kashmir		0.85	9.27
Jharkhand		0.49	0.00
Madhya Pradesh		-	9.95
Orissa		0.90	13.87
Rajasthan		0.40	-
Uttar Pradesh		0.12	-
Uttarakhand		-	3.81
Arunachal Pradesh		0.44	-
Assam		0.38	-
Manipur		0.94	4.28
Meghalaya		0.19	3.13
Mizoram		0.18	25.24
Nagaland		0.25	-
Sikkim		0.13	21.56
Tripura		0.75	5.69

Average	0.68	12.21
Non-High Focus States		
Andhra Pradesh	-	49.83
Goa	-	43.29
Gujarat	0.516	33.97
Haryana	-	12.18
Karnataka	0.398	-
Kerala	0.081	89.97
Maharashtra	0.069	18.98
Punjab	0.202	28.10
Tamil Nadu	-	202.69
West Bengal	-	41.13
Average	0.20	56.69
Source: DLHS-3 (2007–08).		
<i>Note:</i> Number of AYUSH Doctors per PHC on an average is higher in HPS than in NHFS. NHRM seems to be successful in removing the regional imbalance in this part of the health infrastructure. However, patients utilizing PHC OPD services are considerably higher in NHFS than in HFS. NRHM has not so far achieved the desired impact on health output.		

2.4. At CHC Level

Here also the NRHM-MIS data on in- patients and out-patients are not reported completely in all states. The available data from secondary sources are reported in <u>Table 3.10</u>. The table provides data on CHCs functioning as the first referral unit (FRU) as a percentage of total CHCs, staff nurses appointed on contract basis out of NRHM funds per CHC, patients utilizing CHC OPD, and patients admitted to CHC as percentages of rural population in different states.

Table 3.10 CHCs Functioning FRU, Staff Nurses on Contract in CHCs, and Patients Utilizing the Service

Names of states	CHC func- tioning as FRU as a percentage of total number of CHCs	Patients utilizing CHC OPD services as a percent- age of rur- al popula- tion (2007-08)	Patients admitted in CHC as a percentage of rural population (2007–08)	Ratio of number of staff nurses on con- tract un- der NRHM to total
		(2007–08)		total

				number of CHCs
High Focus States		,	'	
Bihar	38.6	0.42	0	0.0
Chattisgarh	54.2	11.14	0.64	0.0
Himachal Pradesh	33.8	-	0.00	0.00
Jammu and Kashmir	30.0	15.31	0.96	2.51
Jharkhand	8.2	-	0.00	0.00
Madhya Pradesh	4.4	16.28	2.17	0.16
Orissa	-	26.20	2.69	2.03
Rajasthan	13.1	-	-	2.07
Uttar Pradesh	6.0	-	-	3.11
Uttarakhand	73.5	20.91	0.34	2.06
Arunachal Pradesh	0.8	-	-	0.52
Assam	8.3	-	-	2.12
Manipur	-	4.84	0.27	3.69
Meghalaya	-	5.20	0.00	0.27
Mizoram	-	9.43	0.96	2.67
Nagaland	-	-	-	2.10
Sikkim	-	19.01	1.25	7.75
Tripura	-	3.20	1.20	0.0
Average	14.48	11.08	1.83	3.21
Non-High Focus States				
Andhra Pradesh	71.9	39.58	3.28	0.72
Goa	100.0	17.71	0.0	0.0
Gujarat	12.5	22.25	2.71	0.0
Haryana	15.1	11.51	0.40	2.08
Karnataka	2.0	4.15	0.19	0.51
Kerala	16.8	66.69	1.09	1.52
Maharashtra	36.1	12.25	1.03	0.12
Punjab	62.7	20.74	0.69	2.26

Tamil Nadu	55.5	-	-	1.67
West Bengal	2.0	40.33	1.68	0.0
Average	27.85	27.96	1.62	0.95

Source: NRHM - MIS.

Note: CHCs working as FRU are in greater percentage in NHFS than in HFS. Staff nurse on contract per CHC is, however, higher in HFS than in NHFS. NRHM is partially successful in reducing regional imbalance in health infrastructure. Number of patients in CHC OPD is higher in NHFS than in HFS. However, patients admitted in CHC are higher in HFS than in NHFS. There are mixed results in health output.

2.5. At District Level

NRHM is envisaged to be totally coordinated at the district level by the District Health Mission under the leadership of the Zila Parishad. Therefore, review of its progress should consider utilization of all public health facilities existing in a district. <u>Table 3.11</u> provides the relevant data. Moreover, an important element of NRHM is the provision of a Flexi Pool budget. <u>Table 3.12</u> considers its allocation over the last three years and <u>Table 3.13</u>, its utilization. Moreover, <u>Table 3.14</u> provides data on the quality of health infrastructure in the form of round-the-clock health facilities and public participation in the form of RKS and VHSCs working on the ground as well as the utilization of the Immunization Fund.

	Percentage of patients admitted to rural population (2007-08)					
Names of states	In DH	In CHC	In PHC			
High Focus States						
Bihar	0.36		0.81			
Chattisgarh	2.28	0.64	0.29			
Himachal Pradesh	23,90					
Jammu and Kashmir	0.55	0,96	0.23			
Iharkhand			-			
Madhya Pradesh	2.43	2.17	1.40			
Orissa	2.21	2.69	1.42			
Rajasthan	_					
Uttar Pradesh	-		_			
Uttarakhand	0.41	0.34	0.09			
Arunachal Pradesh			_			
Assam	-	1 2				
Manipur	0.94	0.27	0.03			
Meghalaya	1.70		0.29			
Mizoram	7,98	0.96	2.90			
Nagaland	0.47	_				
Sikkim	1.25	1.25	0.64			
Tripura	0.54	1.20	1.78			
Average utilization	2.05	1.83	0.41			
Non-High Focus States						
Andhra Pradesh	1.09	3.78	1.46			
Goa	5.57	1.71	1.71			
Guiarat	2.44	2.71	0.50			
Harvana	1.22	0.40	0.11			
Karnataka	1.38	0.19	0.00			
Kerala	1.29	1.09	0.50			
Maharashtra	0.91	1.03	0.48			
Puniah	1.00	0.69				
Tamil Nadu	2.20	-	1.92			
West Bengal	0.98	1.68	0.10			
Average utilization	1.34	1.62	0.63			

Table 3.11 Utilization of Public Health Facilities: DH, CHC and PHC

Source: NRHM - MIS.

Note: While patients admitted in PHC are less in HFS than in NHFS, patients admitted in CHC and DH are more in HFS than in NHFS. Village level health infrastructural imbalances across states could be the cause. NRHM has not succeeded so far to remove it.

Table 3.12 Allocation to NHRM Flexi Pool as Percentage of Total NRHM Allocation

Names of states	2006–07	2007–08	2008–09
High Focus States			
Bihar	24.47	37.65	26.79
Chattisgarh	21.04	28.52	20.88
Himachal Pradesh	14.03	21.54	14.91
Jammu and Kashmir	20.93	27.75	19.31
Jharkhand	20.78	31.67	22.38
Madhya Pradesh	25.86	34.32	23.58
Orissa	22.82	32.90	24.42

Rajasthan	24.48	31.84	23.70
Uttar Pradesh	25.69	35.17	25.20
Uttarakhand	20.82	30.99	20.59
Arunachal Pradesh	36.19	30.49	20.37
Assam	54.79	50.18	39.11
Manipur	46.79	43.24	32.55
Meghalaya	46.02	44.77	32.50
Mizoram	33.29	29.65	20.30
Nagaland	42.80	42.89	31.81
Sikkim	39.77	36.85	20.07
Tripura	50.96	43.96	35.58
Average allocation	29.25	36.28	26.20
Non-High Focus States			
Andhra Pradesh	24.50	30.09	21.88
Goa	19.70	24.43	19.16
Gujarat	21.63	31.64	22.87
Haryana	24.43	36.52	24.05
Karnataka	24.06	31.69	21.48
Kerala	24.47	34.69	23.44
Maharashtra	25.60	34.20	23.78
Punjab	25.69	35.61	24.20
Tamil Nadu	24.87	33.98	22.85
West Bengal	25.16	35.28	22.94
Average allocation	24.51	33.24	22.87
Source: NRHM - MIS.			
<i>Note:</i> Flexi Pool allocation under NRHM has not been consistent over years in either HFS and NHFS categories. However, the average Flexi Pool allocation is higher for HFS than for NHFS. This is in line with NRHM policy.			
Table 3.13 Utilization of NHRM Flexi Pool budget (= Expenditure/Amount Releas	sed)		
Names of states	2008–09 (up to Dec	2007–08	2006–07

	2008)		
High Focus States			
Bihar	14.62	8.85	10.48
Chattisgarh	26.87	68.36	66.40
Himachal Pradesh	90.79	55.04	23.70
Jammu and Kashmir	475.11	29.08	11.28
Jharkhand	178.62	49.65	1.93
Madhya Pradesh	20.93	69.45	34.45
Orissa	47.07	34.82	42.53
Rajasthan	130.88	54.60	16.29
Uttar Pradesh	310.39	19.85	17.09
Uttarakhand	87.72	39.87	9.05
Arunachal Pradesh	-	143.88	26.81
Assam	51.63	73.98	18.45
Manipur	-	90.01	4.25
Meghalaya	26.88	41.82	13.02
Mizoram	101.91	221.90	12.06
Nagaland	69.13	111.50	55.48
Sikkim	-	12.80	6.26
Tripura	46.28	15.34	22.59
Average Utilization	70.98	45.87	21.89
Non-High Focus States			
Andhra Pradesh	43.22	42.36	49.83
Goa	17.23	80.85	31.25
Gujarat	146.66	96.74	27.10
Haryana	38.06	68.44	6.12
Karnataka	84.28	84.11	5.04
Kerala	89.56	51.48	14.64
Maharashtra	48.30	74.59	7.80
Punjab	16.51	81.94	12.14

Tamil Nadu			37.	21	40.46	3	27.92		
West Bengal					66.43	3	46.97		
Average Utilization			59.	04	62.85	5	25.92		
Source: NRHM - MIS.									
<i>Note:</i> Utilization of Flexi Pool Budget has been increasing in both HFS and NHFS over the years. Utilization was higher in NHFS than in HFS during 2006–07 and 2007–08. However, HFS are likely to surpass NHFS in 2008–09. NRHM strategy of Flexi Pool Budget seems to be working as far as expenditures are concerned.									
Table 3.14 Round-the-Clock Health Facilities, RKS, VHS	C and Immuniz	zation Fu	nd						
Names of states	lotal num- ber of round-the- clock health facil- ities as per- centage of total health facilities	RKS as percenta of total health fa cilities	S as f centage c otal p lth fa- p ies (Num age of VI per 7 a- popu (200		ber ISC 000 lation 7–08)	Peru utiliz Imm Fun pen loca (200	centage zation of nunization d (ex- diture/al- ation) 07–08)
High Focus States		1							
Bihar	35.27	26.35		1.21		7.69)		
Chattisgarh	84.82	131.13		0.76		16.9	∂ 2		
Himachal Pradesh	37.20	64.46		1.45		22.5	50		
Jammu and Kashmir	28.85	101.28		0.45		57.0	00		
Jharkhand	40.94	77.72		0.35		54.´	13		
Madhya Pradesh	37.73	80.90		0.18		68.1	14		
Orissa	12.82	79.34		0.33		40.1	17		
Rajasthan	42.49	100.85		2.72		31.7	74		
Uttar Pradesh	23.69	35.30		1.05		75.8	35		
Uttarakhand	29.02	28.71		1.42		46.6	37		
Arunachal Pradesh	68.80	63.20		2.31		22.5	50		
Assam	54.64	124.45		1.40		40.1	13		
Manipur	40.45	82.02		0.19		30.0	00		
Meghalaya	6.06	75.00		1.09		50.0	00		
Mizoram	66.22	77.03		0.34		31.1	11		
Nagaland	46.55	110.34		0.18		3.33	3		

Sikkim	96.55	82.76	1.07	31.43
Tripura	87.64	98.88	0.34	25.00
Average	34.68	67.28	0.52	47.19
Non-High Focus States				
Andhra Pradesh	56.50	100.44	0.37	33.42
Goa	75.00	50.00	0.50	9.16
Gujarat	20.75	94.05	0.47	10.90
Haryana	37.77	105.29	0.31	9.19
Karnataka	61.19	123.27	0.53	24.56
Kerala	31.51	107.90	0.72	7.90
Maharashtra	36.48	98.23	0.61	-
Punjab	25.45	25.00	0.67	10.50
Tamil Nadu	-	106.85	0.45	21.67
West Bengal	46.14	103.03	0.21	15.99
Average	42.41	100.77	0.45	23.43
Source: NRHM - MIS.				

Note: Percentage of round-the-clock health facilities is higher in NHFS than in HFS. RKS per health facility is substantially less in HFS than in NHFS. VH-SCs, however, are more in HFS than in NHFS. Utilization of Immunization Fund is also higher in HFS than in NHFS. Impact of NRHM at village level public participation is felt, but not at higher levels.

2.6. At State Level

The review of the progress of NRHM at the state level is implicitly done for all the above indicators on health inputs, outputs, and outcomes. However, the critical element of concern in NRHM at the state level is the allocation of budget for the health sector. The NRHM visualized an annual increase of at least 10 percent through a formal MoU to be signed by each state with the centre. <u>Table 3.15</u> provides data on the growth of state health budget allocation. <u>Table 3.16</u>, then, provides NRHM budget allocation as a ratio of the state health budget.

 Table 3.15 Growth of State Health and Family Welfare Budget Allocations

Names of states	2005–06	2006–07	2007–08	2008–09	% In- crease
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High Focus States					
Bihar	101485	115275	133157	163464	61.07
Chattisgarh	33136	41760	64668	88698	167.68
Himachal Pradesh	39326	44106	45044	58638	49.11
Jammu and Kashmir	67097	75029	91122	95959	43.02
Jharkhand	92977	98463	92122	99708	07.24
Madhya Pradesh	98910	114519	131974	162892	64.69
Orissa	48702	60819	87407	104885	115.36
Rajasthan	120220	131279	158973	210561	75.15
Uttar Pradesh	306743	430183	463645	562587	83.41
Uttarakhand	35172	39473	59314	56902	61.78
Arunachal Pradesh	7594	12288	14647	9302	22.49
Assam	41101	57211	119614	139768	240.06
Manipur	8296	9658	17161	16517	99.10
Meghalaya	11125	11717	16012	17587	58.09
Mizoram	7701	8261	10356	15726	104.21
Nagaland	12128	12852	14591	17355	43.10
Sikkim	5983	5676	8063	8605	43.82
Tripura	15449	16787	26906	26008	68.35
Non-High Focus States					
Andhra Pradesh	162219	186068	248742	321720	98.32
Goa	13923	14538	16976	18715	34.42
Gujarat	106933	114611	132182	154463	44.45
Haryana	46712	48779	59089	68403	46.44
Karnataka	114619	134961	190146	242403	111.49
Kerala	99918	113772	145456	154213	54.34
Maharashtra	221453	232978	299736	302625	36.65
Punjab	69882	69867	85784	96849	38.59
Tamil Nadu	163911	167051	210194	272186	66.06
West Bengal	158412	167812	210504	229010	44.57

Source: NRHM - MIS.

Note: All these figures are at current prices. The percentage increase is over three years. Except Jharkhand and Arunachal Pradesh from the HFS, all states have increased their health and family welfare budget by more than 10 percent per year over the past three years. Thus, one of the requirements is fulfilled with or without a formal MoU.

Table 3.16 Ratio of NRHM Budget Allocation to State Health Budget

Year	High focus states	Non-high focus states
2005–06	0.016	0.008
2006–07	0.021	0.010
2007–08	0.020	0.011
2008–09	0.045	0.016
Average	0.025	0.012
Source: NRHM - MIS.		

Note: NRHM is consistently allocating higher amount to HFS than to NHFS. The NRHM allocation to both categories has been rising over the last four years but the proportion is very small.

3. Health Output/Outcomes and NRHM

Considering the major goals of NRHM and their sharp focus on the MDGs of reducing

MMR and IMR, a mid-term review of the progress achieved by the program have to consider the impact on these and related indicators. NRHM-MIS does not provide any information on maternal deaths; and other secondary sources of data in India also do not report estimates of MMR on a regular basis. However, there are some related health input/output indicators that can be used as a proxy. We have four such health output indicators besides the outcomes indicators of infant mortality rate (IMR). These are (*a*) Institutional Delivery Rate (IDR), (*b*) percentage of women getting at least 3 ANC checkups, (*c*) Full Immunization Rate among Children (IRC), and (*d*) Unmet Needs of Health Infrastructure (UNHI). In Section 2 we have seen that there is considerable variation in the levels of these five indicators vary substantially from state to state when 'with and without' NRHM scenarios are compared. If we can explain such variations with the help of some of the major components of NRHM, it would be a very useful input for future interventions within NRHM in the country.

Note

1. This could be a fall out of states not signing the MoU and hence not benchmarking and tracking the performance since the NRHM funds are available in any case!