

Bhubaneswar 6<sup>th</sup> September 2009

# Human Resources for Health

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Advisor - Public Health (Human Resources)

Quality of Care, Equity of services & Accountability of HRH

### H R H - Diversity in Unity

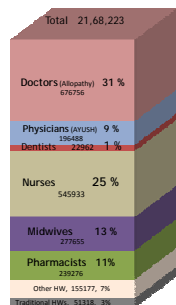
- > Specialists, General Duty Doctors (Allopath, AYUSH, Dentists)
- > Nurses - General, O Ts, ICCUs, ICMUs, IRCUs, Post- Operative
- > ANMs, LHV's, PHNs, Health Worker (M), Health Assistant (Male)
- > Physiotherapists, Occupational therapists, Speech therapists..
- > Paramedics - Pharmacists, Radiographers, Optometrists, Audiologists, Orthotist, Prosthetists, Dieticians...
- > Technicians - Laboratory (Pathology, Microbiology, Biochemistry), OT, ECG, EEG, EMG, USG, CT, MRI, RT, NMT...
- > Dressers, Nursing Orderlies, OT Attenders, Stretcher Bearers, Drivers, Cleaners, Cooks, Managers - Finances / Data

HRH are integral part of TEAMS - each Contributing different Skills & Performing different functions

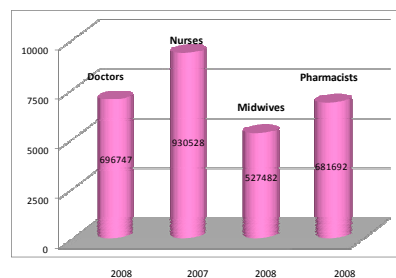
H R H - Density (Per 1,000 Population)					
World Health Statistics 2007- WHO					
	Doctors	Nurses & Midwives	Pharmacists	Lab. Workers	Other HW
<b>India</b>	0.6	1.3	0.6	0.02	1.13
<b>China</b>	1.6	1.03	0.3	0.16	0.93
<b>Cuba</b>	5.9	7.4	-	0.07	2.75
<b>U S A</b>	5.5	7.7	0.7	2.30	16.1
<b>U K</b>	1.7	5.6	0.6	0.34	3.79

### HRH in India

HRH in India (%) - Census 2001



National Health Profile, MOHFW, Govt. of India 2008



**H R H Requirements in Govt. Sector - IPHS (2007) & Estimated Population (2008)**

	S H C	P H C	C H C	S D H	DH	Total
Health Facilities Required	2,28,946	38,157	11,447	2,289	763	2,81,602
Doctor (Allopathy)	0	1,14,471	68,682	13,734	18,312	2,15,199
Specialists	0	0	59,614	57,225	35,098	1,52,437
Nurse	0	# 1,90,785	80,129	2,28,900	1,90,750	6,90,564
ANM	4,57,893	38,157	11,447	13,734	3,052	5,24,283
LHV / PHN	0	0	11,447	0	0	11,447
Health Worker - (Male)	2,28,946	0	0	0	0	2,28,946
Pharmacist	0	76,314	34,341	9,156	6,104	1,25,915
Laboratory Workers	0	76,314	34,341	27,468	6,867	1,44,990
AYUSH - Specialist, Doctor & Pharmacist	0	76,314	34,341	6,867	3,052	1,20,574
Dentists	0	0	11,447	2,289	763	14,499
Radiographer	0	0	22,894	4,578	9,156	36,628
O.T. Tech. / Opth. Asst.	0	0	22,894	16,023	7,630	46,547
<b>Total HRH Required</b>	<b>6,86,840</b>	<b>5,72,355</b>	<b>3,91,577</b>	<b>3,79,974</b>	<b>2,80,784</b>	<b>23,12,029</b>

NB: 1. District & Sub-district Hospital requirements estimated as per IPHS norm of 300 beds for 10 lakh population  
 2. District Hospitals are higher as some districts have more than one District Hospital  
 3. # IPHS 3 only. Requirement normalised as 5 for 24 hrs. availability of Nurses (3 shifts & off duties / leaves)

**H R Shortfall (%) in PHCs & SHCs in Sample Districts - IPHS Norms**

Category	IPHS 2007	Muzaffarnagar (U. P.)		Janjgir (Chattisgarh)		Dausa (Rajasthan)		Tripura (West Tripura)	
		Req. (Nos)	Shortfall (%)	Req. (Nos)	Shortfall (%)	Req. (Nos)	Shortfall (%)	Req. (Nos)	Shortfall (%)
<b>PHC (Required as per IPHS)</b>	<b>each</b>	<b>136</b>		<b>50</b>		<b>52</b>		<b>24</b>	
1 Medical Officer	3	408	79	150	85	156	79	72	29
2 AYUSH doctor	1	136	82	50	100	52	90	24	25
3 Pharmacist	2	272	86	100	69	104	100	48	42
4 Staff Nurse	5	680	100	250	100	260	81	120	28
5 ANM	1	137	90	50	100	52	42	24	17
6 LHV	1	136	54	50	98	52	46	24	100
7 Health Worker - Male	1	136	100	50	100	52	+(35)	100	DNA
8 Health Assistant - Male	1	136	13	25	+(25)	52	96	24	58
9 Lab. Technician	2	272	96	100	99	104	77	48	69
10 Class IV /Nur. Attd./SW	4	544	75	200	63	208	68	72	+21
11 Acct. Mgr./ Clerk/ Driver	3 + D	408	94	150	100	156	88	72	47
<b>SHC (Required as per IPHS)</b>	<b>each</b>	<b>817</b>		<b>300</b>		<b>310</b>		<b>256</b>	
1 ANM	2	1634	75	600	70	620	65	512	38
2 Health worker Male	1	817	96	300	58	310	67	256	22

**Health Care Challenges**

Indicator	NFHS-1 1992-93		NFHS-3 2005-06		Achievement 13 years (%)	DLHS-3 2007-08	Achievement 2 years (%)
	Population (Lakhs)	Per Bed	Population (Lakhs)	Per Bed			
Institutional Deliveries	26.1		40.7		15	47.0	6.3
A N C (min. 3 visits)	43.9		50.7		7	51.0	0.3
Full Immunisation (Children 6-35 month)	35.5		43.5		8	48.0 #	5.5
I M R	79.0		57.0		- 22	55 SRS	- 2.0
M M R (/1 lakh)	437		254 SRS		- 183	-	
E C P Rate	36.5		48.5		13	54.1	5.6

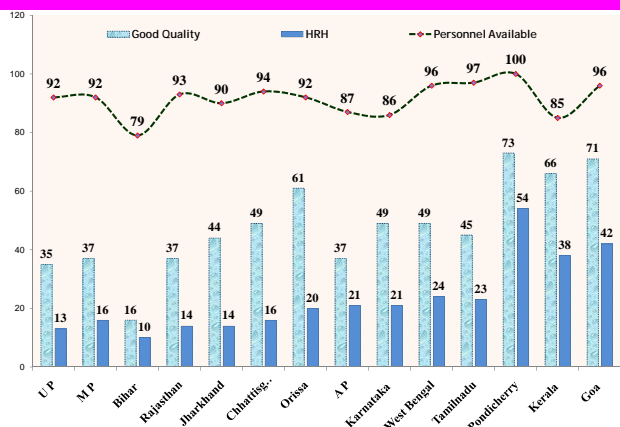
NB: # Children 12-23 months

**HRH Density & Health Care Outcomes**

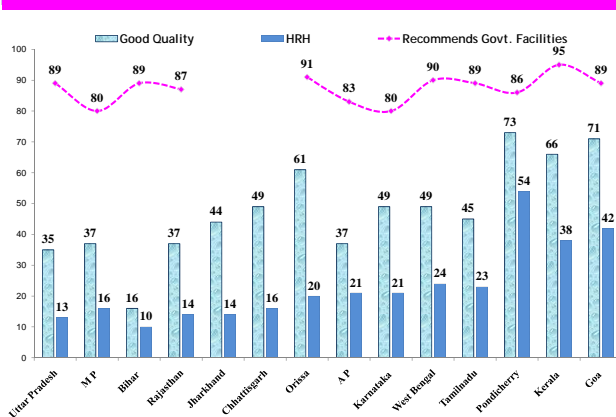
States	Population		Quality perceived to be Good	Health Worker Density (/10000 Popu.-Census 2001)			Health Care Out-Comes		MMR SRS (04-06)	IMR SRS (04-06)		
	(Lakhs)	Per Bed		DLHS-3 (07-08)	HRH (all)	Doctor Allopathy	Nurse & ANM	ANC (min.3)			NFHS-3 (2005-06) Deliveries by HRH	DLHS-3 (07-08) Full immunisation Children
India		2,315		19.5	6.1	7.4	52	47	44	54	254	55
1 U P	1903	5,646	35	13	6	3	27	27	23	30	440	69
3 Bihar	936	4,163	16	10	4	3	17	29	33	41	312	58
4 Rajasthan	645	1,977	37	14	4	5	41	41	27	49	388	65
2 M P	687	3,392	37	16	5	6	41	33	40	36	335	72
5 Jharkhand	302	5,494	44	14	4	6	36	28	34	54	312	48
6 Orissa	397	2,724	61	20	3	13	62	44	52	62	303	71
7 A P	824	2,351	37	21	8	8	85	75	46	67	154	54
9 Karnataka	576	1,163	49	21	7	8	80	70	55	77	213	47
8 West Bengal	870	1,734	49	24	7	6	62	48	64	76	141	37
12 Tamil Nadu	661	1,391	45	23	6	10	96	91	81	83	111	35
11 Pondicherry	12	352	73	54	11	29	98	99	89	80	20	25
10 Kerala	338	1,217	66	38	6	19	94	99	75	80	95	13

NB: DLHS-3 Children 12-35 months

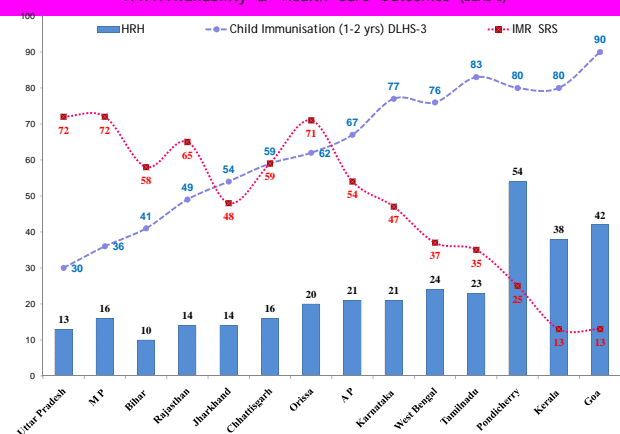
**HR - Quality & Accountability - Consumer's Perceptions (DLHS-3)**



**H R H - Acceptability Of Government Facilities - Consumer's Perceptions (DLHS-3)**



**H R H Availability & Health Care Outcomes (DLHS-3)**



**Inequities within the States**

Full vaccination in Children - Low & High performing districts in states DLHS -3

State	Average	Lowest	Highest	Difference	HRH
1 Bihar	41	Jamui 17 Kaimur 22	Muzaffarpur 57 Saran 65	48	10
2 UP	30	Budaun 11 Etah 12	Pratapgarh 59 Deoria 72	61	13
3 Rajasthan	49	Alwar 27 S.Madhopur 29	Banaswara 87 Dungarpur 88	59	14
4 Jharkhand	54	Girdih 22 Godda 28	Lohardaga 81 E. Singh Bhumi 82	60	14
5 MP	36	Damoh 11 Tikargarh 14	Ujjain 74 Balaghat 75	64	16
6 Orissa	62	Rayagada 27 Malkangiri 35	Jajapur 82 Baleshwar 83	56	20
7 Karnataka	77	Raichur 50 Bijapur 51	Kolar 95 Kodagu 96	46	21
8 A.P.	67	Srikakulam 52 Nellore 53	Rangareddy 81 Karimnagar 82	30	21
9 West Bengal	76	U.Dinajpur 55 Murshidabad 62	Bankura 92 Hugli 93	38	24
10 Tamil Nadu	83	Madurai 60 Theni 61	Viluppuram 95 Nagpattinam 95	35	23
11 Kerala	80	Malapuram 62 Palakkad 65	Alappuzha 92 Thiruvnthpuram 93	31	38

Equitable Distribution & Quality - Essential for health care provision

Quality !! Work Place of ANM - SHC



Quality !! Operation in Progress at PHC (at 6.30PM on Festival day)



Quality !! In-Patient Facility - SDH



30 Years Service and his residence at PHC  
Still a committed & Dedicated HRH



Changing Scenario at Health Facilities - NRHM

**PHCs**  
with RKS funds  
under NRHM



Nandivaram PHC



Kaveripakkam PHC



Morappur PHC

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In-Patient Facilities at CHC After NRHM

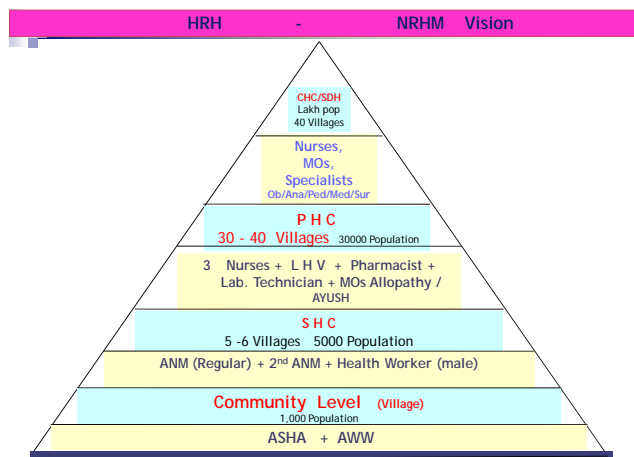


Operation Theatre at PHC After NRHM



Out Reach Services - Real Testing Times





		NRHM Goal			Addl. HR Provided (Aug. 2009)
		2007	2009	2012	
1	ASHA for 1000 population/ large isolated habitations in 18 Special Focus States	50 %	100 %	100 %	6,96,044
2	2 <sup>nd</sup> ANM at SHCs (Special Focus States)	30 %	60 %	100 %	35,767
3	30,000 PHCs as 24x7 with 3 Staff Nurses	30 %	60 %	100 %	7,424 (25%)
4	6,500 CHCs with 7 Specialists & 9 Nurses	30 %	50 %	100 %	-
5	1,800 Sub-Divisional Hospitals strengthening	30 %	50 %	100 %	564 (31%)
6	600 District Hospitals strengthening	30 %	60 %	100 %	498 (83 %)
<b>6,924 MOs, 8,510 AYUSH doctors/ Paramedics, 2,299 Specialists, 24,148 Staff Nurses, 41,141 ANMs, 5,682 Lab. Tech./ Paramedics and 6.96 lakhs ASHAs provided</b>					

INEQUITY - Medical Education & Doctors (Allopathy)						
States	Medical Colleges	Seats UG	Regd.	Dr. / lakh Population	Other Countries	
1. Bihar (8) 2. Chattisgarh (3) 3. Haryana (3) 4. Himachal (2) 5. Jharkhand (3) 6. Madhya Pr. (8) 7. NE States (7) 8. Orissa (6) 9. Rajasthan (8) 10. U. P. (16) 11. Uttaranchal (3)	67	6,702	1,63,266	6 - 39	-	
52 % of Population (59.4 crore) 17 States		(22 %)				
1. Andhra Pr. (32) 2. Gujarat (13) 3. J & K (4) 4. Kerala (18) 5. Maharashtra (39) 6. West Bengal (9)	115	13,995	2,68,457	61 - 97	-	
33 % of Population (38 crore)		(45 %)				
1. Chandigarh (1) 2. Delhi (5) 3. Goa (1) 4. Karnataka (39) 5. Punjab (8) 6. Tamil Nadu (25) 7. Pondicherry (8)	87	10,125	2,01,385	110 - 177	UK 166 China 164	
15 % of Population (17 crore)		(33 %)				
<b>India (114.47 lakh Population)</b>	<b>269</b>	<b>30,822</b>	<b>6,33,108</b>	<b>60</b>		

### NHSRC HRH Activities

Core HR issues were discussed at the Pondicherry meeting

**HR Situation Analysis & Action Plans (Nurses & ANM) in 4 States** (Bihar, Orissa, Rajasthan & Chattisgarh) and **Data Collection Completed** in Uttarakhand

**HR Situation Analysis (Doctors & Specialists) in Progress** in 6 States (Bihar, Chattisgarh, Gujarat, Orissa, Rajasthan & Uttarakhand)

**Nursing Faculty Development (Seats) Facilitated** - Uttarakhand

**Rendering TA - Establishing SHSRC/ HR Cells / Nodal officers in States** - New Courses ....

## Feasible Options for Enhancing Availability of Nurses

Nursing School (Diploma in Nursing)	Existing			Proposed Intake				By 2015
	No.	Intake / year	Annual Intake	Annual Intake	2010	2011	2012	
<b>Orissa</b>								
1 Government - Cuttack	1	40	80	80 x 1	80	80	80	240
2 " - Berhampur & Burla	2	20+25	45	50 x 2	100	100	100	300
3 " Rourkela & Talcher	2	40+20	60	40 x 2	80	80	80	240
3 NGO - Balasore	1	30	40	40 x 1	40	40	40	120
4 " - Cuttack, Berhampur & Nayagarh	3	60	60	40 x 3	120	120	120	360
5 Private sector	21	20-40	830	1200	1200	1200	1200	3600
6 Proposed New (1/district)	-	-	-	50 x 29	1450	1450	1450	4350
<b>Total</b>	<b>24</b>	<b>-</b>	<b>1060</b>		<b>3070</b>	<b>3070</b>	<b>3070</b>	<b>9210</b>
<b>Bihar</b>								
1 Government	3	60	180	60 x 3	180	180	180	540
2 Government	2	50	100	100 x 2	100	100	100	300
3 Government (IGMS)	1	40	40	60 x 1	60	60	60	180
4 NGO	3	40	120	40 x 3	120	120	120	360
5 Proposed New (1 per district)	-	-	-	40 x 3	1320	1320	1320	3960
<b>Total</b>	<b>9</b>	<b>-</b>	<b>440</b>		<b>1780</b>	<b>1780</b>	<b>1780</b>	<b>5340</b>

## Quality - Training of Nurses &amp; ANMs in Bihar &amp; Orissa

Skill	ANM - 61 & 24				GNM - 67 & 25				B.Sc. - 27	
	Independently		Under Supervision		Independently		Under Supervision		Independently	Under Supervision
	Orissa	Bihar	Orissa	Bihar	Orissa	Bihar	Orissa	Bihar	Orissa	Orissa
1 Conducting Delivery	12	6	46	24	20	18	58	22	12	21
2 Antenatal Examination	23	8	41	24	32	20	56	22	11	16
3 Postnatal care	24	11	34	23	39	18	51	22	16	18
4 Immunization	25	8	43	22	30	15	57	25	15	18
5 Newborn Resuscitation	18	6	52	24	23	13	52	20	9	22

## H R H Institutions &amp; Availability (NHP 2007)

Category	Institutions (2006)	Annual Intake (2008)	Requirements HRH (at SHC, PHC, DHC, SDH, DH for 2008 Population)	Remarks
1. Medical Colleges	289	32,815	MOs 2,15,199 Spec. 1,52,437	1:1,667 Population-India
2. Dental Colleges	282	22,650	Dentists 14,499	1: 35 lakhs - Bihar 1: 18,812 - Pondicherry
3. AYUSH Institutions	477	27,265	Drs. 70,207	1 : 798 Population - India
4. Nursing Schools	1,620	62,647	Nurses 6,90,564	1: 264 population - India 1: 100 -200 Europe
5. ANM Schools	329	6,502	ANMs 5,24,283	+ 1,42,655 - 2 <sup>nd</sup> ANM + 43,966 - new SHCs
6. Health Worker -Male	102	5,334	2,28,946	No Registration Council
7. Pharmacy - Degree Diploma	241 523	13,400 31,543	1,25,915	India 1 : 1,840 Europe 1 : 2,300
8. Lab Technician	97	2,193	1,44,990	No Registration Council
9. Radiographers	33	410	36,628	No Registration Council
10. Ophthalmic Tech.	41	426	46,547	No Registration Council
<b>Total</b>	<b>4034</b>	<b>2,05,185</b>	<b>21,04,650</b>	

## The Way Ahead

Equity, Accountability and Quality in Health Care  
Critically Depends on H R H

HRH Availability, Competency & Responsiveness in each situation

HRH Performance depends on  
HR characteristics, Work place related issues & Supportive Supervision

- Ensuring Adequate HRH including Rationalisation of Categories
- Job Responsibilities, Protocols .
- In service Learning as a continued Process
- Skills matched to the Needs
- Building up of Motivated Teams
- Well compensated Remunerations / Incentives / Career Paths
- Supportive supervision through infrastructure, Supplies .....

Let us all Enjoy the Marathon  
to build up credible HRH

Working Together - It is Possible  
to Craft Credible and Effective Health Systems

**Thank YOU**

*Dr. D. Thamma Rao*  
Advisor (Public Health), NCHSR

	Population (Lakh) > 350	Availing Govt. Facilities	HR (/ 10000 population)			Achievement 2005-2006		
			HRH (all)	Doctor Allopathy	Nurse & ANM	ANC (min.3)	Deliveries by HRH	Full Immu. Child (1-5y)
<b>India</b>		<b>66</b>	<b>19.5</b>	<b>6.1</b>	<b>12.7</b>	52	48	44
1 Maharashtra	1080	70	29	8	11	75	69	59
2 West Bengal	870	71	24	7	6	62	48	64
3 Tamil Nadu	661	47	23	6	10	96	91	81
4 A P	824	74	21	8	8	86	75	46
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10 U P	1903	85	13	6	3	27	27	23
11 Bihar	936	93	10	4	3	17	29	33

	Population (Lakh) > 350	Availing Govt. Facilities	HR (/ 10000 population)			Achievement 2005-2006		
			HRH (all)	Doctor Allopathy	Nurse & ANM	ANC (min.3)	Deliveries by HRH	Full Immu. Child (1-5y)
<b>India</b>		<b>66</b>	<b>19.5</b>	<b>6.1</b>	<b>12.7</b>	52	48	44
1 Delhi	170	71	45	15	16	75	64	63
2 Kerala	338	50	38	6	19	94	99	75
3 Punjab	267	81	27	11	8	75	68	60
4 J&K	113	37	21	7	6	74	57	67
5 Haryana	242	73	20	8	5	59	49	65
6 Chhatisgarh	233	64	16	4	6	54	42	49
7 Assam	294	35	14	3	6	39	31	31
8 Jharkhand	302	78	14	4	6	36	28	34

	Population (Lakh) > 350	Availing Govt. Facilities	HR (/ 10000 population)			Achievement 2005-2006		
			HRH (all)	Doctor Allopathy	Nurse & ANM	ANC (min.3)	Deliveries by HRH	Full Immu. Child (1-5y)
<b>India</b>		<b>66</b>	<b>19.5</b>	<b>6.1</b>	<b>12.7</b>	52	48	44
1 Chandigarh	12	-	65	23	25	-	-	-
2 Pondicherry	12	-	54	11	29	98	99	89
3 Mizoram	10	9	46	5	12	59	60	46
4 Goa	16	70	42	11	20	95	92	79
5 Sikkim	6	8	42	8	17	70	47	70
6 Nagaland	22	48	27	4	17	33	25	21
7 Arunachal	12	18	27	3	18	36	30	28
8 Himachal	66	18	26	6	10	63	48	74
9 Manipur	24	21	23	5	12	70	59	47
10 Uttaranchal	95	56	21	7	6	45	39	60
11 Tripura	35	20	18	3	9	60	49	50
12 Meghalaya	25	35	15	3	9	54	31	33

H R H Density - States (&lt; 50 lakh Population) Census 2001

	Population (Lakh)	Health Worker Density (per 10,000 population)				Achievement (NFHS -3 2005-06)			
		H R H (all)	Doctor Allopathy	Nurse & Midwife	Pharmacist	ANC (min.3)	Deliveries by HRH	Child -Full Immunisa.	Preg. Women Anaemic
<b>Small States</b>	< 50								
<b>India</b>		19.5	6.1	7.4	2.2	52	48	44	58
1 Chandigarh	12	65	23	25	3.9	-	-	-	-
2 Pondicherry	12	54	11	29	4.0	98	99	89	96
3 Mizoram	10	46	5	12	1.2	59	60	46	49
4 Goa	16	42	11	20	3.7	95	92	79	37
5 Sikkim	6	42	8	17	0.9	70	47	70	53
6 Nagaland	22	27	4	17	4.6	33	25	21	-
7 Arunachal	12	27	3	18	2.5	36	30	28	49
8 Manipur	24	23	5	12	2.9	70	59	47	36
9 Tripura	35	18	3	9	2.3	60	49	50	58
10 Meghalaya	25	15	3	9	1.4	54	31	33	56

NB : \* NFHS-2

H R H Density - States (&gt;50 - 350 lakh Population)

	Population (Lakh)	Health Worker Density (per 10,000 population)				Achievement (NFHS -3 2005-06)			
		H R H (all)	Doctor Allopathy	Nurse & Midwife	Pharmacist	ANC (min.3)	Deliveries by HRH	Child (1-2yr) Full Immunisa.	Preg. Women Anaemic
<b>Medium States</b>	> 50-350								
<b>India</b>		19.5	6.1	7.4	2.2	52	48	44	58
1 Delhi	170	45	15	16	4.4	75	64	63	30
2 Kerala	338	38	6	19	3.5	94	99	75	33
3 Punjab	267	27	11	8	3.3	75	68	60	42
4 Himachal	66	26	6	10	5.3	63	48	74	37
5 Uttaranchal	95	21	7	6	3.5	45	39	60	45
6 J&K	113	21	7	6	4.7	74	57	67	54
7 Haryana	242	20	8	5	2.9	59	49	65	70
8 Chhatisgarh	233	16	4	6	1.2	54	42	49	63
9 Assam	294	14	3	6	2.2	39	31	31	72
10 Jharkhand	302	14	4	6	1.8	36	28	34	68

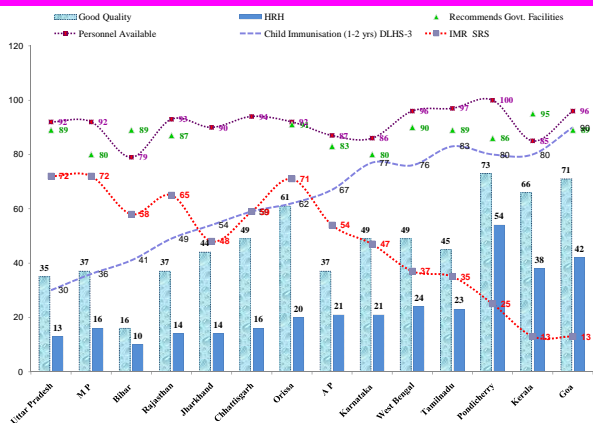
H R H Density - Large States (&gt;350 lakh Population) (World Bank 2008)

	Population (Lakh)	Health Worker Density (/ 1000 population - Census 2001)				Achievement (NFHS -3 2005-06)			
		H R H (all)	Doctor Allopathy	Nurse & Midwife	Pharmacist	ANC (min.3)	Deliveries by HRH	Child -Full Immunisa.	Preg. Women Anaemic
<b>Large States</b>									
<b>India</b>	> 350	19.5	6.1	7.4	2.2	52	48	44	58
1 Maharashtra	1080	29	8	11	2.4	75	69	59	58
2 West Bengal	870	24	7	6	3	62	48	64	63
3 Tamil Nadu	661	23	6	10	1.7	96	91	81	53
4 AP	824	21	8	8	2.4	86	75	46	56
5 Karnataka	576	21	7	8	1.3	80	70	55	60
6 Orissa	397	20	3	13	1.2	62	44	52	68
7 Gujarat	566	17	4	6	3.0	68	63	45	61
8 MP	687	16	5	6	2.1	41	33	40	58
9 Rajasthan	645	14	4	5	2.5	41	41	27	61
10 UP	1903	13	6	3	1.7	27	27	23	52
11 Bihar	936	10	4	3	1.9	17	29	33	60

## HRH - Issues Across States

- **Distributional Imbalances** of available HRH - Geographical & Institutional leading to non-availability especially in the underserved areas
- **Qualitative Imbalances** - Mismatches, Under-qualified / Trained
- **Lack of HR Management Information Systems & Mechanisms** for HR Planning
- **Lack of Medical/ Nursing/ Paramedical Institutions** to Generate Additional HRH
- **HRH Losses** - Poor Working Conditions & Low Pay

H R H & Health Care Outcomes - Consumers Perceptions (DLHS-3)



Infrastructure Growth in India

