

What Ails India's Healthcare Sector?

Dr. Shamika Ravi
Brookings India

The International Center Goa
14 October 2017

In the last 10 years, Indian households...

- More urban
- More literate
- More have latrines
- Less poor (Consume more)
- More have health insurance

- ...all these affect household health.

Broad Socio Demographic changes

	2004	2014
Rural households (%)	72.0	67.4
Hindu households (%)	83.9	82.3
Muslim households (%)	10.8	12.5
SC households (%)	8.3	9.1
Age	26.1	28.5
Households with no latrine (%)	60.0	41.2
Women in the population (%)	48.8	48.5
Population aged 60 and above (%)	6.9	7.8
Population not literate (%)	42.4	31.5
Average monthly household consumption expenditure(INR 2004-5)	3008	3459
Population insured (%)*	1.0	15.2

Health seeking changes

- 7% more households report being sick
- 18% increase in sick urban households
- 14% increase in sick females

- 9% increase in OPD
- 42% increase in IPD

- 75% OPD exclusively private healthcare (-7% change in 10yrs)
- 55% IPD in private hospitals

Health Seeking vs. Gender

	2004	2014	Diff
Whether hospitalised (%)	3.1	4.4	1.3***
Rural male	2.3	2.7	0.4***
Rural female	3.3	5.9	2.5***
Urban male	3.0	3.4	0.3***
Urban female	5.1	6.3	1.2***
Public care IPD (%)	42.3	45.4	3.1***
Rural male	41.5	39.5	-2.0***
Rural female	45.1	56.1	11.1***
Urban male	38.2	32.1	-6.1***
Urban female	38.9	36.8	-0.02*

Childbirth vs. Other ailments

	2004		2014	
	Public	Private	Public	Private
All other ailments	11.5	16.7	14.3	22.8
Childbirth – Caesarean/ Normal/ Any other	3.4	3.5	8.9	5.0

- Growing use of private hospitals for all ailments...
- ...except for childbirth

Janani Suraksha Yojana

	Hospitalization	Public Hospital	Private Hospital
JSY=1* Post (2014)	0.013***	0.014***	-0.001
	(0.004)	(0.003)	(0.002)

- JSY has lead to more public hospitalization overall
- ...increased institutional delivery by 15%
- ...lowered delivery at home

	Institutional delivery	Delivery Public hospital	Delivery Private hospital	Delivery Home
JSY=1*Post (2014)	0.145***	0.224***	-0.078**	-0.167***
	(0.027)	(0.034)	(0.034)	(0.026)

Out of Pocket Expenditure

	2004	2014
OOB as a % of (OOB + govt. spending)	70.3	67.1
OPD expenditure as a % of total OOB	71.3	63.5

- OOB as share of health expenditure fallen marginally
- Share of OPD in total OOB fallen by 11%

Out of Pocket Spending: IPD vs OPD

	2004	2014	Diff
Total real IPD expenses per household	1103	1842	738***
Total real OPD expenses per household	2751	3112	362***
Total OOP expenses per household	3854	4954	1099***

- 13% increase in real OPD expense per household
- 66% increase in real IPD expense per household

Large disparities in OOP

- Annual real OOP increased 24% per person in rural areas
- ...and 50% per person in urban areas

- The increase in OOP in rural areas is concentrated on extreme poor
- ...while in urban areas the increase is across most quintile groups

Large disparities in OOP

	2004	2014	Diff
Annual Real OOP (per person in the population)	799.0	1098.0	299***
Rural	699.3	866.2	166.9***
Urban	1091.6	1639.4	547.8***
Rural population			
1 st quintile	329.2	582.8	253.5***
2 nd quintile	459.3	664.7	205.4
3 rd quintile	683.7	675.0	-8.7
4 th quintile	760.0	919.3	159.3
5 th quintile	1555.7	1781.4	225.7
Urban population			
1 st quintile	556.5	756.3	199.8*
2 nd quintile	788.1	1148.2	360.1***
3 rd quintile	1025.8	1621.3	595.5***
4 th quintile	1445.1	2218.4	773.3*
5 th quintile	2323.2	3475.5	1152.3**

Expenditure per IPD case

Average expenditure per IPD case (INR 2004-05)	6552	8053	1501***
Rural	5752	5904	151
Urban	8217	10866	2649***
Diff (rural-urban)	-2464***	-4962***	
Average doctor fee			
Rural	534	1754	1219***
Urban	763	3533	2770***
Diff(rural-urban)	-229***	-1778***	
Average medicine expenditure			
Rural	1273	1916.6	643***
Urban	1341	3007.5	1667***
Diff(rural-urban)	-68	-1090***	
Average diagnostic expenditure			
Rural	746	878	131**
Urban	874	1517.1	642***
Diff(rural-urban)	-128**	-639***	

- Average expenditure per IPD has increased significantly
- This increase is much more for urban households
- ...doctor's fees, medicines and diagnostics

Impoverishment due to health expenses

	2004		2014	
	% BPL Population	% BPL Pop after health expenses	% BPL Population	% BPL Pop after health expenses
India	38.5	45.9	23.3	30.8
Rural	42.2	49.9	26.5	34.1
Urban	27.8	33.9	15.8	23.2

- % of Indian households that fell below poverty due to OOP health expenses remains unchanged at 7%

Financing Healthcare

Population insured (%)*

1.0

15.2

- 15% (NSSO) vs. 25% (World Bank)

	2004	2014
Household income/savings (%)	55.3	77
Borrowings (%)	33.9	20
Contributions from friends/relatives (%)	9.6	4.2
Other (incl. sale of physical assets) (%)	3.3	1.4

- Households relying more on own income/savings
- ...less on borrowing

Insurance Coverage

Consumption Quintile group	All insurance (2014)		Public insurance (2014)	
	Rural	Urban	Rural	Urban
1 st quintile	11.5%	9.7%	10.8%	8.6%
2 nd quintile	11.4%	12.5%	10.8%	10.6%
3 rd quintile	12.3%	18.6%	11.6%	13.9%
4 th quintile	17.4%	23.1%	16.6%	14.1%
5 th quintile	19.8%	36.4%	17.7%	15.1%

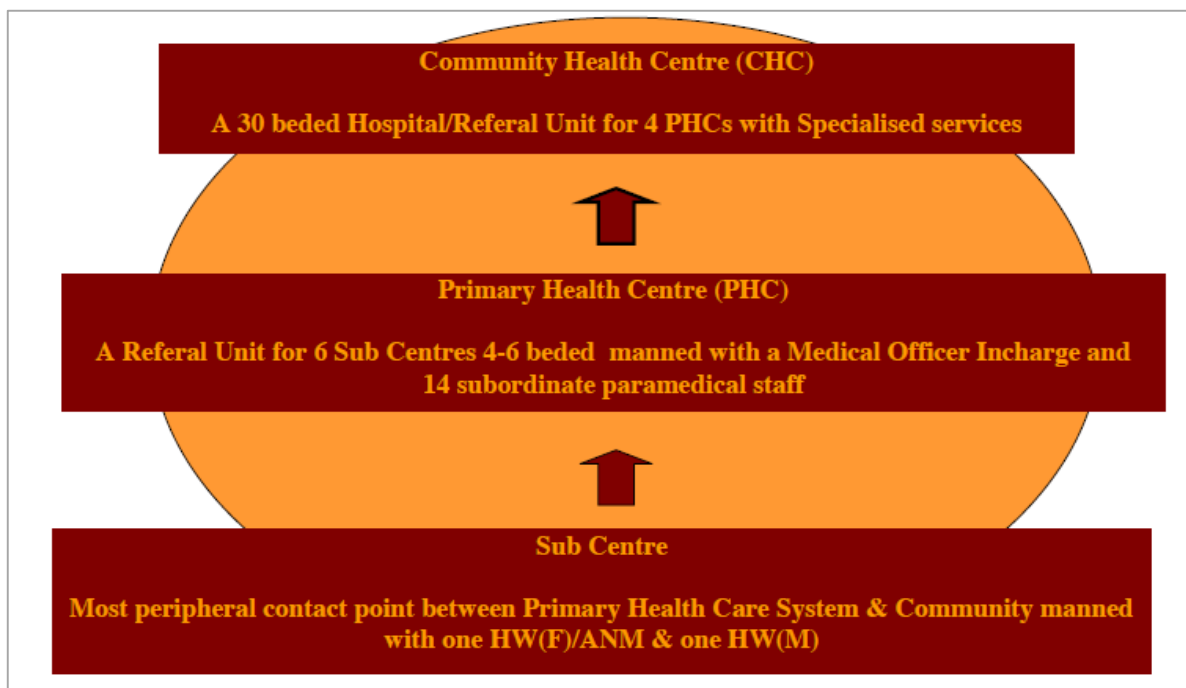
- Private health insurance covers richer, urban households
- ...while public health insurance more evenly distributed

Insurance and Hospitalization

	Probability of Hospitalization	Probability (Public Hospital)	Probability (Private Hospital)
Insurance	0.14***	0.17***	0.08***
	(0.02)	(0.03)	(0.03)
Public insurance above 30k	-0.09***	-0.03	-0.06*
	(0.03)	(0.04)	(0.03)

- **Public Health insurance strongly associated with higher hospitalization**
- **So while public health insurance might not have lowered expenditure burden of households, it has improved access to IPD care**

1: Public Health Infrastructure

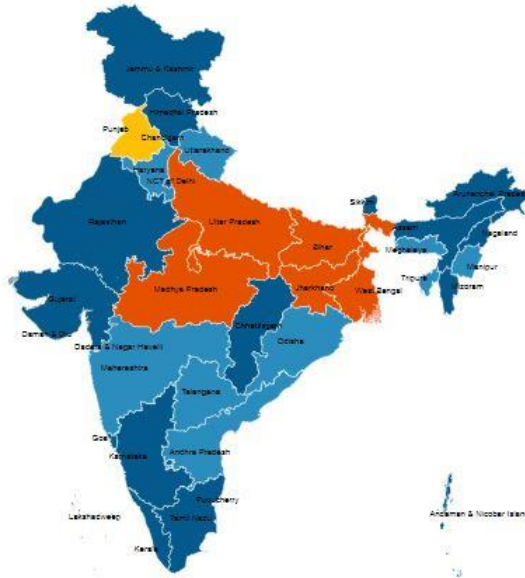


Centre	Population Norms	
	Plain Area	Hilly/Tribal/Difficult Area
Sub Centre	5000	3000
Primary Health Centre	30,000	20,000
Community Health Centre	1,20,000	80,000

Infrastructure Quantity: E.g. Availability of PHCs

Availability of Primary Health Centres

AVAILABILITY DISTANCE HUMAN RESOURCES INFRASTRUCTURE SUPPLY



INDIA

373,953,492

Total Urban Population

833,751,556

Total Rural Population

94,083,844

Total Rural Tribal Population

Existing

32,002

Required

29,335

Surplus (%)

8%

Large Surplus

> 25%

Surplus

0 - 25%

Shortage

0 - 25%

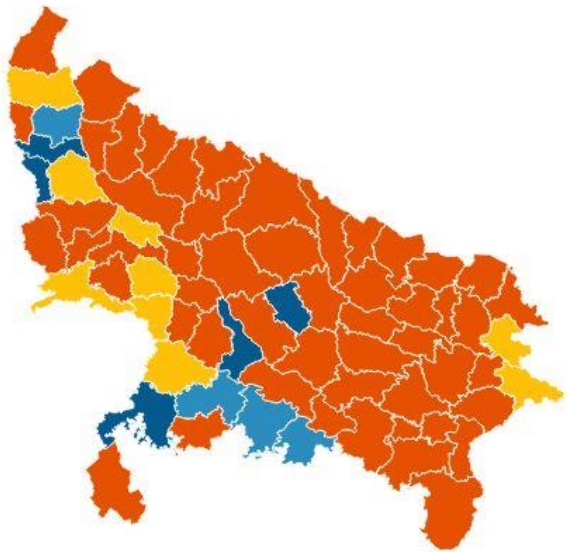
Extreme Shortage

> 25%

Infrastructure Quantity: E.g. Availability of PHCs

Availability of Primary Health Centres

AVAILABILITY DISTANCE HUMAN RESOURCES INFRASTRUCTURE SUPPLY



UTTAR PRADESH

44,495,063

Total Urban Population

155,317,285

Total Rural Population

1,031,076

Total Rural Tribal Population

Existing **3,382**

Required **5,193**

Shortage (%) **54%**

Large Surplus

> 25%

Surplus

0 - 25%

Shortage

0 - 25%

Extreme Shortage

> 25%

Infrastructure Quantity: E.g. Distance to Sub Centre

Villages with Access to Sub Centre within 5 km

AVAILABILITY DISTANCE HUMAN RESOURCES INFRASTRUCTURE SUPPLY

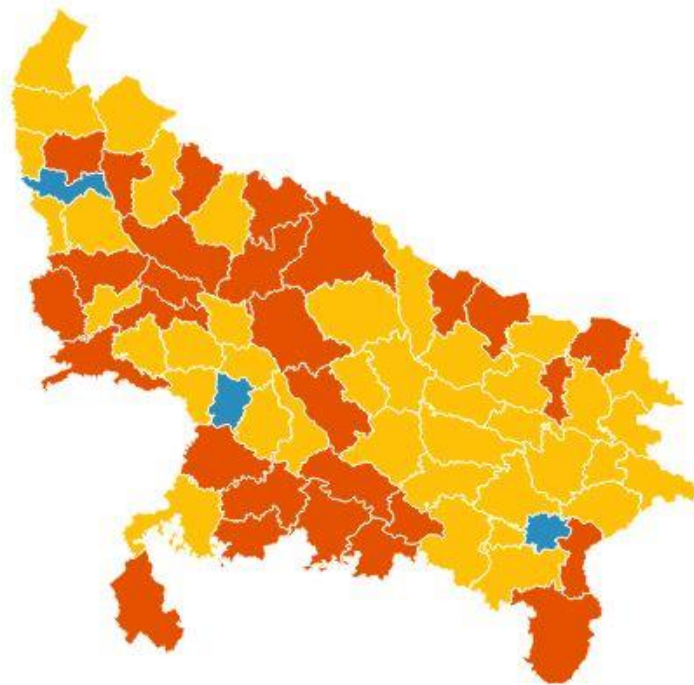
UTTAR PRADESH

106,774

Total Number Of Villages

32,888

Villages With Access



High

> 71%

Above average

53% - 71%

Below average

40% - 52%

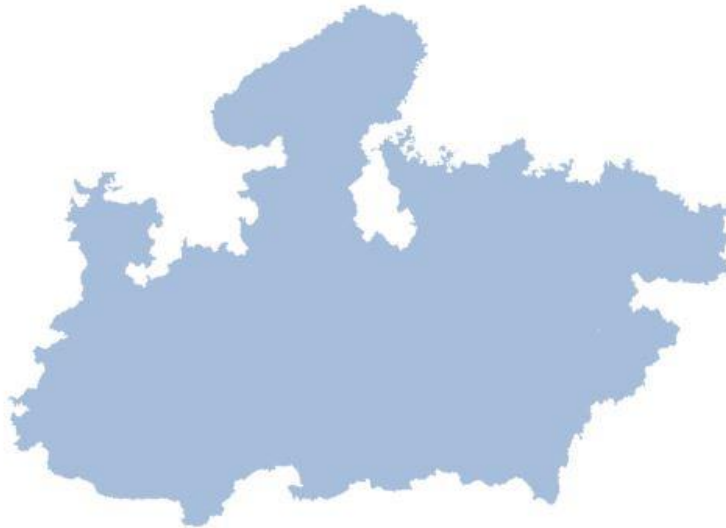
Low

< 40%

Infrastructure Quality: E.g. Infrastructure of CHC

Public Health Infrastructure Quality for Community Health Centre : Madhya Pradesh

AVAILABILITY DISTANCE HUMAN RESOURCES INFRASTRUCTURE SUPPLY



Infrastructure

Shortage in Community Health Centre

Functioning X-Ray Machines	80.5%
Quarters for Specialits Doctors	34.4%
Specialist Doctors Living in Quarters	63.8%
Referral Transport Available	0.0%
Functioning Labour Rooms	0.0%
New Born Care Corners	3.3%
at least 30 Beds	0.0%
Functional Operational Theatres	6.3%
Functional Labs	3.3%

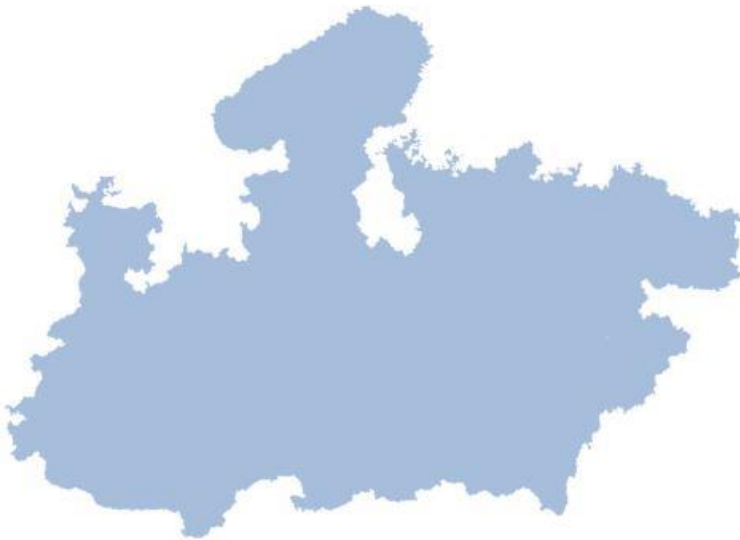
 Surplus  Shortage

Select Language ▼

Infrastructure Quality: E.g. Human Resources in CHCs

Public Health Infrastructure Quality for Community Health Centre : Madhya Pradesh

AVAILABILITY DISTANCE HUMAN RESOURCES INFRASTRUCTURE SUPPLY



Human Resources

Shortage in Community Health Centre

All Specialists	80.3%
General Duty Medical Officer	22.1%
Pharmacists in PHC & CHC	32.0%
Lab Technicians in PHC & CHC	40.7%
Nursing Staff in PHC & CHC	3.4%
Shortage of Radiographers	49.4%

 Surplus  Shortage

Infrastructure Quality: E.g. Supplies at CHCs

Public Health Infrastructure Quality for Community Health Centre : Madhya Pradesh

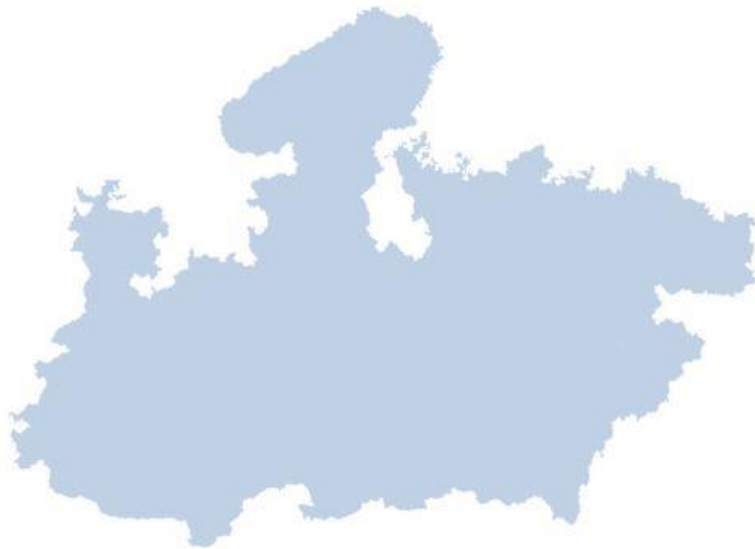
AVAILABILITY

DISTANCE

HUMAN RESOURCES

INFRASTRUCTURE

SUPPLY



Supply

Shortage in Community Health Centre

Allopathic Drugs for Common Ailments	0.0%
AYUSH Drugs for Common Ailments	33.2%

 Surplus  Shortage

Health Infrastructure Index : Big States

	Quantity Index	Quality Index	Infrastructure Index	Ranking
Jammu & Kashmir	4.28	2.10	8.99	1
Chhattisgarh	3.86	2.09	8.08	2
Gujarat	3.04	2.29	6.95	3
Karnataka	2.98	2.31	6.88	4
Rajasthan	3.23	1.89	6.08	5
Uttarakhand	3.38	1.78	6.02	6
Kerala	3.10	1.91	5.94	7
Delhi	4.14	1.41	5.84	8
Assam	3.04	1.88	5.70	9
Tamil Nadu	2.41	2.34	5.62	10
Punjab	2.22	2.38	5.29	11
Andhra Pradesh	2.29	2.30	5.27	12
Maharashtra	1.93	2.55	4.92	13
Telangana	2.06	2.37	4.87	14
Madhya Pradesh	2.29	2.13	4.87	15
Haryana	2.03	2.18	4.41	16
Odisha	2.32	1.84	4.28	17
West Bengal	1.96	1.86	3.65	18
Uttar Pradesh	1.92	1.79	3.44	19
Jharkhand	2.15	1.51	3.25	20
Bihar	1.62	1.59	2.58	21

*Public Health Infrastructure Index = Quantity Index * Quality Index*

Health Infrastructure Index: Small States

	Quantity Index	Quality Index	Infrastructure Index	Ranking
Mizoram	6.41	2.61	16.73	1
Sikkim	5.12	2.35	12.03	2
Himachal Pradesh	5.80	1.89	10.96	3
Arunachal Pradesh	6.96	1.34	9.33	4
Nagaland	4.26	1.96	8.34	5
Meghalaya	3.77	2.00	7.54	6
Tripura	3.90	1.85	7.21	7
Manipur	3.10	2.05	6.37	8
Goa	2.34	2.23	5.23	9

2. Unequal Access to Healthcare Services

- **Rural – Urban Inequities**
- **Male – Female Inequities**
 - **“Missing Female Patients: An Analysis of Gender Ratios from Tertiary Care in India”**

Deepak Agarwal, Randeep Guleria, Mudit Kapoor, Shamika Ravi and Ambuj Roy (using AIIMS Data)
 - 2,377,028 OPD visits (2016)
 - Sex ratio (male/female) patient visits: 1.69
 - Sex ratio worsens with distance to hospital
 - U- shaped relationship with age group
 - **47% female patients missing**

3. Big State Variations: Causes of Death

Region	Cause of Mortality (Male)	(%)	Cause of Mortality (Female)	(%)
All-India	Cardiovascular diseases	23.9	Cardiovascular diseases	20
	Ill-defined	8.6	Ill-defined	13.3
	Respiratory diseases	8.1	Respiratory diseases	7.6
Uttar Pradesh	Cardiovascular diseases	12.3	Ill-defined	14.4
	Ill-defined	11.3	Diarrhoeal diseases	9.1
	Respiratory diseases	11.3	Cardiovascular diseases	8.6
Uttarakhand	Cardiovascular diseases	20.4	Respiratory diseases	15.4
	Respiratory diseases	16	Cardiovascular diseases	14.6
	Tuberculosis	6.6	Ill-defined	7.4
Kerala	Cardiovascular diseases	35.4	Cardiovascular diseases	34.9
	Malignant & other Neoplasms	12	Ill-defined	17.3
	Respiratory diseases	9	Malignant & other Neoplasms	11.1

*Ill-defined/ All other symptoms, signs and abnormal clinical and laboratory findings

4. Health financing

- Over dependence on health insurance
- US vs. Singapore
- Medical Savings Account – must experiment
- Reform Insurance
 - Raise utilization: claims/coverage
 - Single payer system?

5. Human Resources

- Large shortages (as explained before)
- Large mismatch
- Medical council of India
- Dismantle the hegemony of physicians
 - Nurse practitioners
 - Paramedics
 - ASHA
 - AYUSH
- Mandatory service

6. Poor Governance

- Public health institutions
 - Gorakhpur
 - Absenteeism, private practice...
- Private hospitals
 - Over diagnosis, financial bottom lines, unethical practices...
 - Quality of care beyond NABH (checklist)
- Best Practices within the country
 - Tamil Nadu drug procurement
 - Kerala – CMO vs DM
 - ASHA workers – incentive pay

7. Public vs. Private Healthcare

- Both needed – Segmented markets
- Role of Public
 - Comprehensive Primary Care
 - Medical Research and Training
- Role of private
- PPP –evidence
 - contract design with minimal bureaucracy

8. Make Health Political!

- Need to mainstream healthcare concerns
- Democratize healthcare

Thank you.