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Ajay Mahal, Abdo S. Yazbeck, David H. Peters, G.N.V. Ramana

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Health, Nutrition and Population (HNP) Discussion Paper

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The Poor and Health Service Use in India

I. Motivation

Ensuring that the health needs of the poor and vulnerable are addressed is a critical objective of most governments. In addition to considering health status as an important dimension of poverty and vulnerability, improving health is also a critical determinant of economic status, especially for poor families. Since a healthy body is the primary productive asset for the poor (WHO 1999), protecting or improving health status of the poor effects the productivity of large groups of people, facilitating increased earning and minimizing the risk of falling deeper into poverty. One of the main determinants of good health, and a focus of this paper, is the appropriate use of preventive and curative health care services.

This paper summarizes empirical findings from recent World Bank financed analysis on the use of health services by the poor in India (Mahal et al 2000) and some additional analysis conducted with the same data. Three factors motivate the choice of approach taken here and in the background paper. First, the size of the population, the diversity within India, and the unique governance structure provide an opportunity for comparative analysis to support learning about equity in health service use. This led to analysis below the national level where state-level comparisons are used.

The second motivating factor is India's commitment to equity. This made it important to link choices made by families from different socio-economic status to the resource allocation decisions by the public sector. A related outcome is the development of baseline information on equity within the health sector that can be used by policy makers to set and monitor objectives. The final motivating factor is that the size and scope of private provision of health services in India makes it critical to go beyond looking at the utilization of publicly provided services. The analysis of equity in services use is then extended to include the private sector.

This paper and the analytical work supporting the findings summarized in it are part of a set of studies intended to provide information for public and professional discussion around the shape of India's future health system. Other studies included private health sector analysis, consumer protection in the health sector, health insurance, pharmaceutical sector analysis, and analysis of the quality of health services. The underlying purpose is to find ways to improve health outcomes in India, particularly for the poor, and to develop sustainable health systems and financing to achieve better health outcomes. The whole effort originated out of a longstanding dialogue between the Government of India and the World Bank.

A brief description of the data and methodology is presented in the next section. A summary of national-level findings is provided in section III and state-level findings in section IV. A discussion of the relevance of the findings, including study limitations, is presented in the final section.

II. Data and Methodology

The empirical findings reported in this paper are based on data from three sources. The main source of information on utilization of health services (both curative and preventive) is the 52nd round of the National Sample Survey (NSS) conducted in 1995-96, which included a special health module (NSSO 1998). The NSS household survey covers some 121,000 households and is nationally representative.

The NSS survey contains information on curative care by type of facility, in the private and public sector, by state, by rural and urban residence, by gender, and allows for the construction of poverty lines and consumption-based income quintiles. The NSS also contains information about household out-of-pocket payments to facilities and providers. Finally, the survey includes some data on preventive services (immunization and ante-natal care).

In order to calculate the per-service unit of public subsidy required for benefit incidence analysis (BIA), two sources of data were used. First, state-level public expenditure data was used to estimate the unit cost variations by state and level of facility. A second source of data was facility based studies that had more accurate unit cost measures but could not capture the variability by state.

The results summarized in this paper include different measures of utilization of preventive and curative services as well as benefit incidence analysis. Benefit incidence measures the extent to which different groups in the population capture the public subsidy provided through public provision of services. There are four basic steps for calculating benefit incidence:

1. Rank all individuals (or households) from poorest to richest by the chosen measure of current welfare.
2. Identify which individuals used each type of the publicly provided services.
3. Calculate the average unit cost of providing each type of publicly provided service (net of cost recovery fees)
4. Multiply the utilization figures by the government's unit cost of provision (net of fees). This then gives the amount of public spending on the good or service going to each group.

Mathematically, Benefit Incidence is estimated by the following formula:

$$X_j \equiv \sum_i U_{ij} \frac{S_i}{U_i} \equiv \sum_i \frac{U_{ij}}{U_i} S_i \equiv \sum_i e_{ij} S_i$$

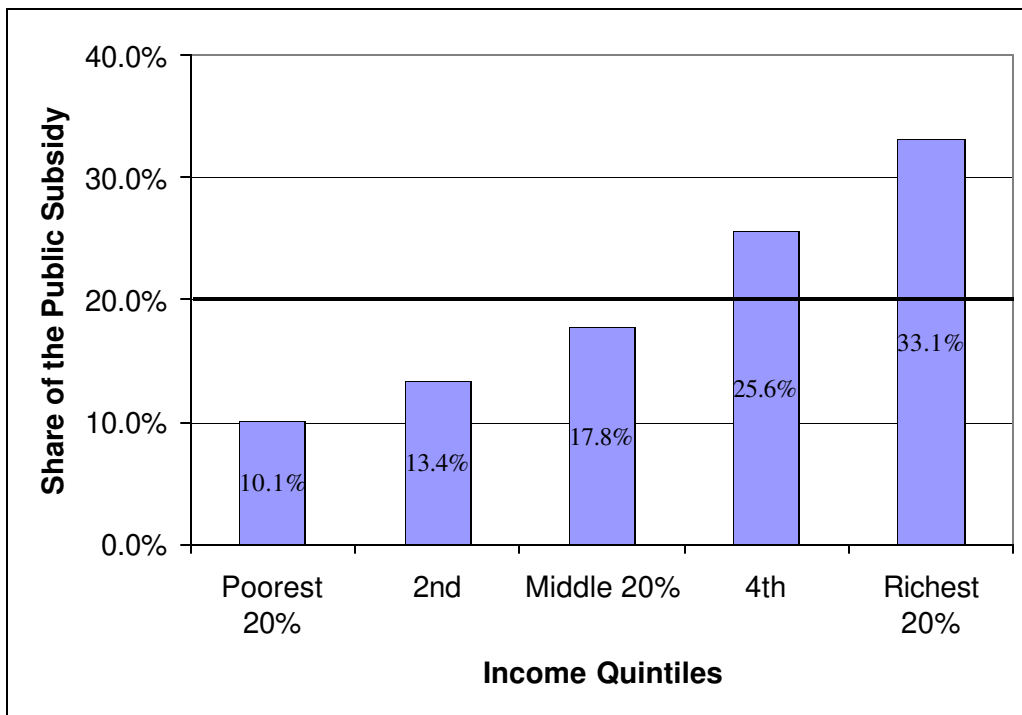
- X_j = health sector subsidy enjoyed by group j,
 U_{ij} = utilization of service i by group j,
 U_i = utilization of service i by all groups combined,
 S_i = government net expenditure on service i, and
 e_{ij} = group j's share of utilization of service i

III. National-Level Findings

Winners and losers from tax-financed services

Applying the tool of benefit incidence analysis, the National Sample Survey and budget data were used to assess the extent to which different groups gained from publicly financed and provided services. Figure 1 summarizes the relative share of the public subsidy captured by the different income groups. The poorest 20 percent of the population only captured about 10 percent of the total net public subsidy. The richest quintile benefited three times more than the poorest. It should be stated, however, that while publicly financed curative care services appear to be pro-rich in distribution, it is not known whether other publicly financed services outside health are more or less equitable. Another important caveat, addressed in the next section, is that while the equity performance of the public sector is less than ideal for some types of services, the study finds the private sector to be much more pro-rich in distribution. On the positive side, analysis of the cost-recovery system shows the rich paying most of the out-of-pocket hospital fees, with the top two quintiles (the richest 40%) paying 87.6 percent of the collected fees.

Figure 1: Share of the public subsidy for curative care according to income group

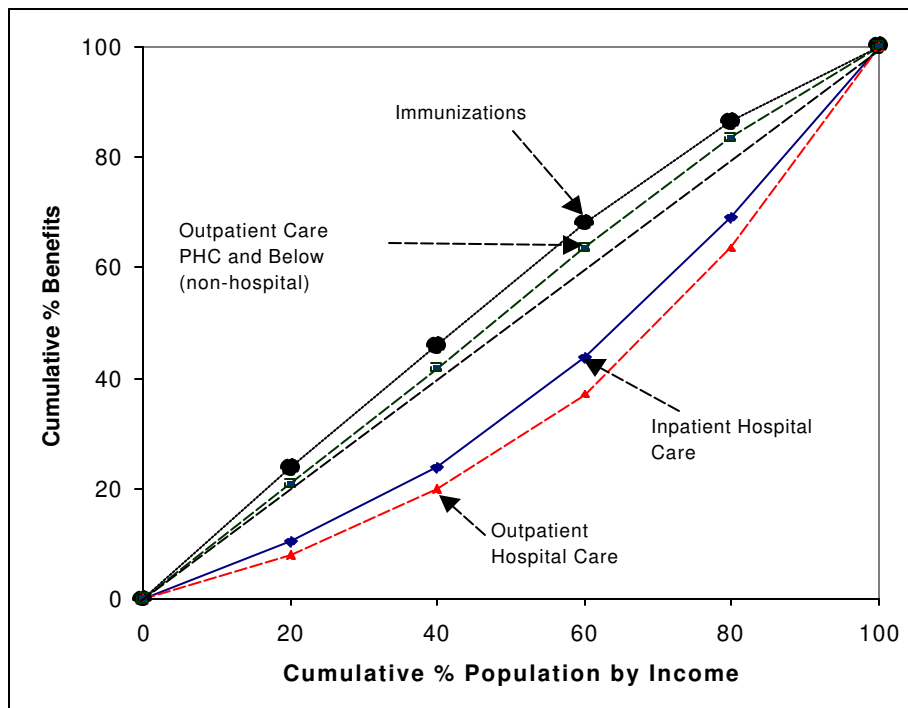


An alternative approach to the assessing the distributional performance of the health sector is to use more absolute measures of poverty. In each state, a poverty line was created for rural and urban population, and the utilization rates then calculated for those above and below the poverty line. The BIA results show that while the population below

the poverty line accounting for 36 percent of the total population they realized about 24 percent of the subsidy for public financing of curative health services.

Two factors contribute to the pro-rich orientation of public spending. Overall utilization of publicly provided services is skewed towards the rich as more individuals from the higher income groups are likely to seek health care services. The second factor is the type and level of services sought by the different income groups. The data clearly shows that the rich are much more likely than the poor to use hospital-based services, both inpatient and outpatient (Figure 2). Out-patient care from primary health care (PHC) facilities, however, showed a slight pro-poor distribution. The concentration curves depicted in Figure 2 show the cumulative benefits by income groups starting from the poorest to the richest. A concentration curve below the diagonal line indicates a pro-rich bias, and above the diagonal indicates a pro-poor bias.

Figure 2: Subsidy Benefits Concentration Curve by Type of Care



It is important to point out a major limitation in the NSS data that does not allow deeper exploration of hospital-based services. The data does not distinguish between large tertiary urban-based hospitals and small rural-based secondary hospitals. A recent summary of international evidence argues that the share of the benefits captured by the poor decreases with the complexity of the services (Yaquub 1999). In other words, the poor are more likely to use primary care services than secondary and more likely to use secondary than tertiary. Moreover, analysis of facility based data in several Indian states show the poor use proportionately more of secondary hospitals, particularly those that are located in the poorer rural areas (STEM 2000, IHS 2000, Blackstone 2000). This might mean that the use of secondary hospitals is not as pro-rich as that of all hospitals taken together.

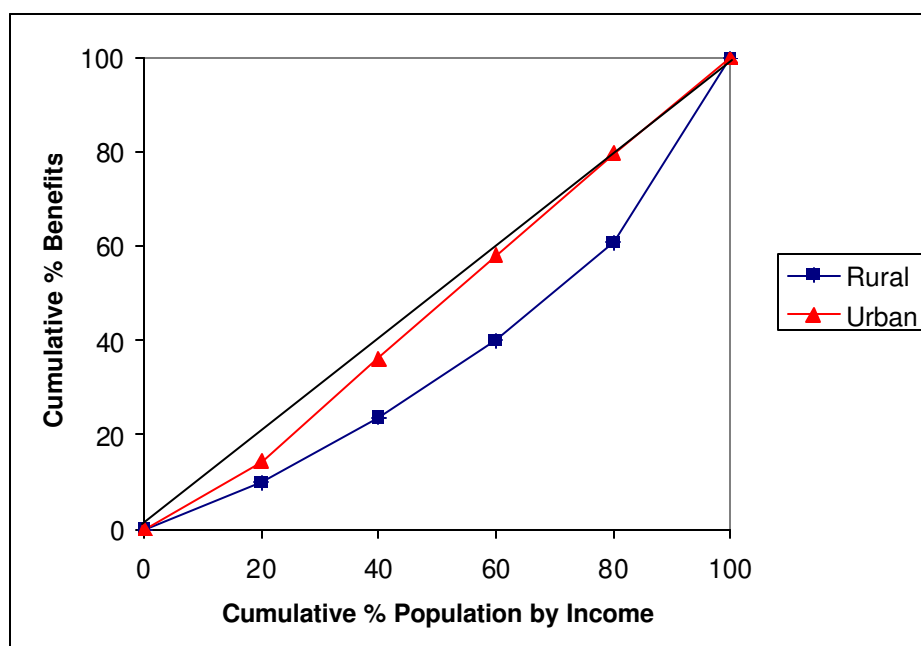
A striking finding of the study relates to the use of inpatient beds at primary health care facilities. While an estimated twenty percent of all public sector inpatient beds in India are at primary health centers, the study finds that less than 5 percent of inpatient bed days take place at these centers, and that they are not particularly pro-poor in the population they serve. Moreover, exercises undertaken for State Health Systems Development Projects to rationalize public health services and design referral systems have pointed out that inpatient beds at primary health facilities are not needed. This suggests that savings could be made by no longer investing in inpatient beds at these facilities. In states where budgets are allocated on basis of the number of beds, the practice would need to be changed.

The study segmented the data further to explore the degree of inequality in subsidy benefits by gender and between urban and rural residences. The level of inequality in benefits from curative services is higher for men than for women. In fact, when all the benefits are summed up, the men accounted for 46.6 percent and the women of 54.4 percent of total benefits from curative care services (even though men represent a higher percentage of the sample). Curative care services did not include any services related to pregnancies. At the national level, it appears that there is no gender discrimination. As we will see below, however, when the data was segmented by state and residence, variations appear.

Segmenting the data by residence shows a higher level of inequality in subsidy benefits for the rural population. Figure 3 shows the urban public subsidy concentration curve almost the same as the diagonal whereas the concentration curve for the rural population shows pro-rich benefits. Public hospitals are more accessible to urban populations, which partly explains the urban-rural difference. Since hospitalization is the major contributor to subsidy benefits, increasing utilization at rural public hospitals would help government health subsidies to be more pro-poor. In addition to the distributional differences for the rural and urban samples, there is inequality between the two. While the rural population of India represented more than 75 percent of the national total, they only captured 67.6 percent of the net benefits from curative care. The 25 percent of the population in urban areas captured 32.4 percent of the benefits.

The findings on rural use of health services and the levels of inequality are consistent with previous analytical work using primary data collection (World Bank 1997). That work found that utilization of secondary care public hospitals, which are most available to rural populations, was quite low. Since major reasons for low utilization at the secondary level included problems with quality and few private sector alternatives, this suggests that a first step for the public sector would be to improve the quality of rural public hospitals (World Bank 1997).

Figure 3: Subsidy benefits concentration curve for curative care by residence



Another measure of vulnerability in India are scheduled casts and tribes (SC/ST). There does not appear to exist clear levels of inequality by SC/ST groupings. The results show that the SC/ST represented 29 percent of the population and captured 28.4 percent of the subsidy benefits from curative care services.

Turning last to measures of preventive care, immunization and antenatal visits, the national level findings show a more equitable distribution than for most curative care. Compared to curative care subsidies, especially hospital-based, the public subsidy for immunization appears to be pro-poor in distribution. Figure 2 shows a concentration curve for publicly provided immunization doses where the poorest two quintiles received forty seven percent of all the publicly provided doses. Some, but not all, of the pro-poor distribution can be explained by the fact that poor household have more children. Antenatal care services provided at primary care facilities appears to be pro poor with the bottom two quintiles (poorest 40 percent) accounting for 46 percent of the visits. Antenatal visits at hospitals, however, appears to be pro-rich, with the top two quintiles (richest 40 percent) accounting for 49 percent of the visits.

Public-Private Health Services Use Comparisons

As mentioned earlier, the fact that hospital-based services (inpatient and outpatient) in the public sector appear to favor the rich should be placed in the context of other types of services, such as public services other than health or similar health services in the private sector. The study takes on the latter comparison. Since tax-subsidy benefits do not exist in the private sector, the comparison looks at health services utilization. Figure 4 shows hospitalization in the private and public sectors by income quintile. Both public and private hospitalizations increase with income but the rate of growth is higher in the

private sector. Another important result is the strong reliance of the poor on public hospitals as measured by the share of the public sector for hospitalizations. Sixty one percent of hospitalizations in the poorest quintiles take place in public hospitals while the richest quintile used public hospitals only 33 percent of the time.

Turning to institutional deliveries (Figure 5), we find a similar distribution pattern between the private and public sector and by income group. While individuals in the richest quintile take more advantage of the public sector for institutional deliveries in terms of actual use, the poor are more likely to use the public sector with 73 percent of institutional deliveries for women from the poorest quintile taking place in the public sector.

Figure 4: Public and Private Sector Hospitalization Rates by Income Quintile

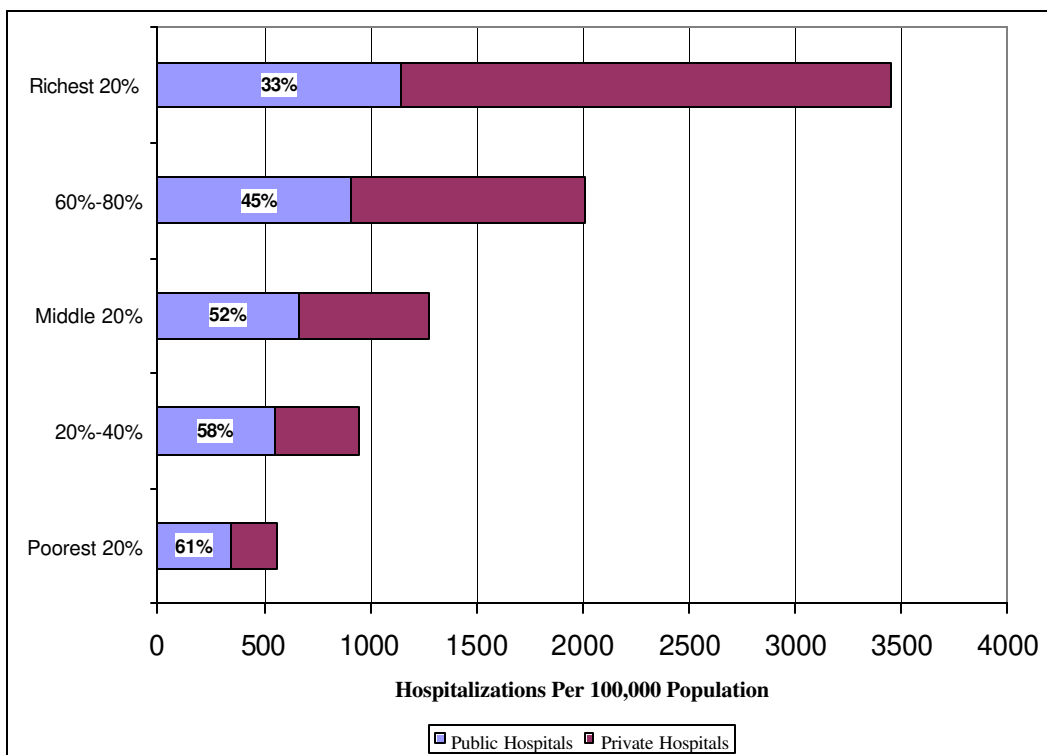
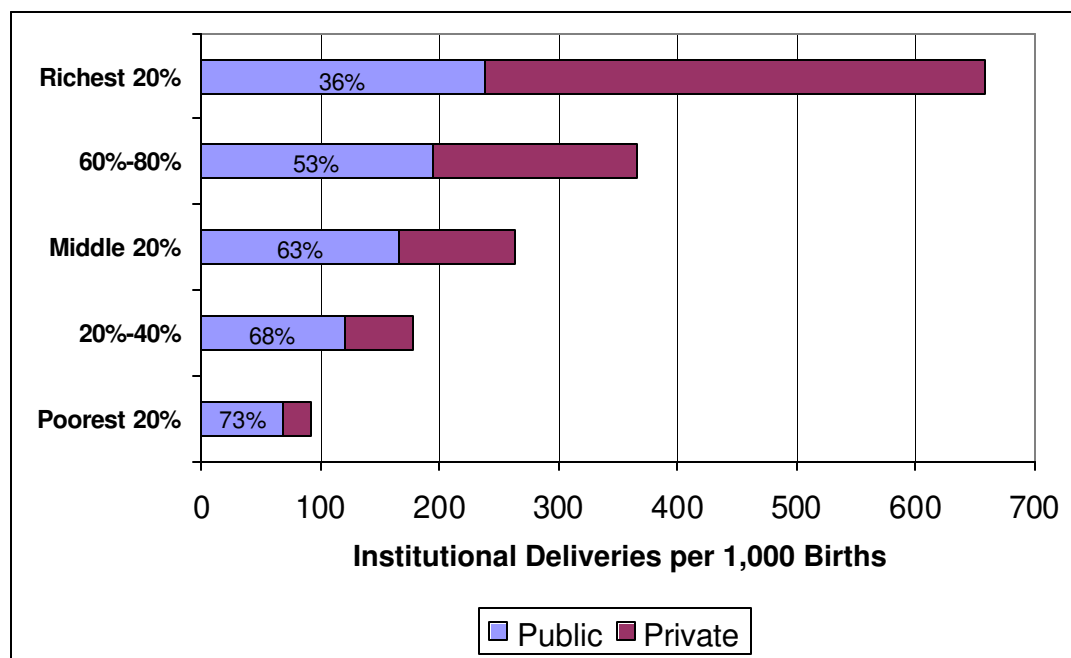


Figure 5: Distribution of Institutional Deliveries Per 1,000 Births in Public and Private Facilities According to Income Quintile

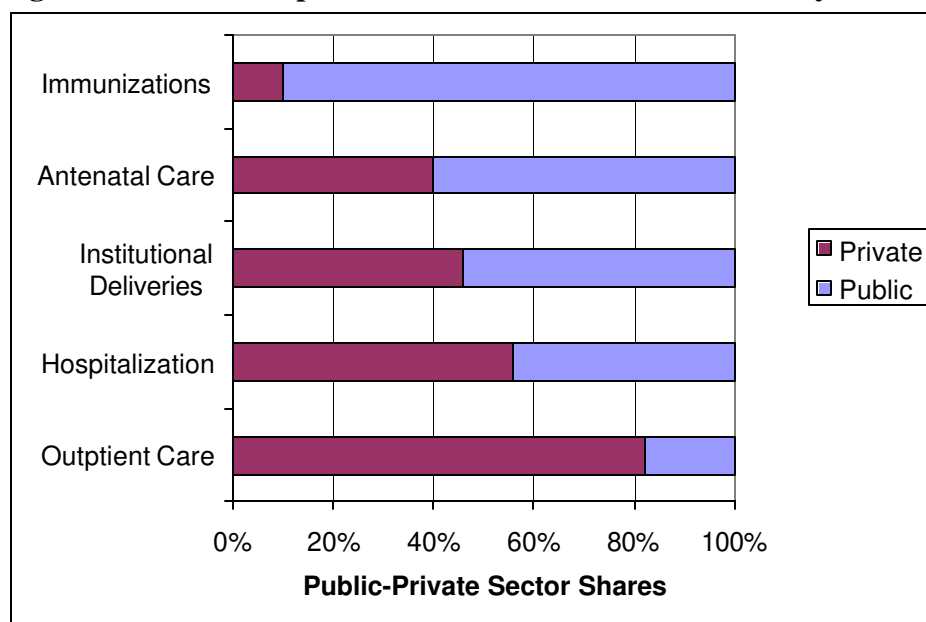


An important dimension to hospitalization is the length of stay once hospitalized (or the number of inpatient bed days). A large proportion of hospital days in the public sector are captured by the rich for long term hospitalizations, raising questions about appropriate policies to deal with such cases more efficiently and equitably. More than one quarter of all public hospital bed-days are taken by people staying longer than 90 days; of these, 40 percent are consumed by the richest quintile.

Turning to outpatient services (hospital and non-hospital-based), the private sector plays an even more important role than in hospitalization with 82 percent of all visits taking place with the private sector. This basic finding is similar by income group, for urban and rural populations, by gender, by caste and tribe affiliation, and above and below the poverty line.

The story is different for preventive services. Figure 6 shows the share of the public and private sector for five groups of services. As noted above, out-patient curative care is dominated by the private sector with more than 80 percent of all visits taking place in the private sector. Hospitalizations and institutional deliveries are shared almost equally between the public and private sectors. The role of the public sector, however, is stronger for preventive services with 60 percent of antenatal visits and 90 percent of immunization doses delivered by the public sector.

Figure 6: Public and private sector shares in service delivery



The general pattern of public and private choices exhibited in Figure 6 was analyzed for those above and below the poverty line. Consistent with the income quintile findings, the population below the poverty line was more likely to use the public sector than those above the poverty line. Two types of services showed the largest variation, inpatient bed days and antenatal care. Sixty six percent of the hospital bed days for those below the poverty line took place in public facilities compared to only 44 percent of the bed days for those above the poverty line. Similarly, 74 percent of the antenatal visits for women below the poverty line took place in public facilities compared to 52 percent of the visits of women above the poverty line. These findings reinforce the basic finding that the poor continue to rely heavily on the public sector as the primary source of care.

IV. State-Level Findings

In order to take advantage of the variability across India, the utilization and benefit incidence analysis were repeated for 16 of the larger states and regions accounting for 97 percent of the population of India. The income quintiles and the poverty lines were created for each state as well as for urban and rural populations within each state. Detailed state-level findings and analysis are provided in the study report (Mahal et al 2000). Only a small sample of state-level variations is presented here.

State-level performance for publicly financed curative care

To simplify the presentation of state-level benefit incidence findings, a concentration index was created for each concentration curve measuring the level of subsidy benefit inequality (or distance from the equality line). Table 1 summarizes the findings by state and ranks state performance. Only one state, Kerala, appears to have pro-poor curative care health services. Three states, Gujarat, Tamil Nadu, and Maharashtra, are not

statistically different from the equality line. All other states exhibit pro-rich curative care services, with Bihar, Himachal Pradesh, and Rajasthan, ranking worst. There are, however, large differences between the urban and rural samples, with urban areas being far more equitable than the rural areas in all the states.

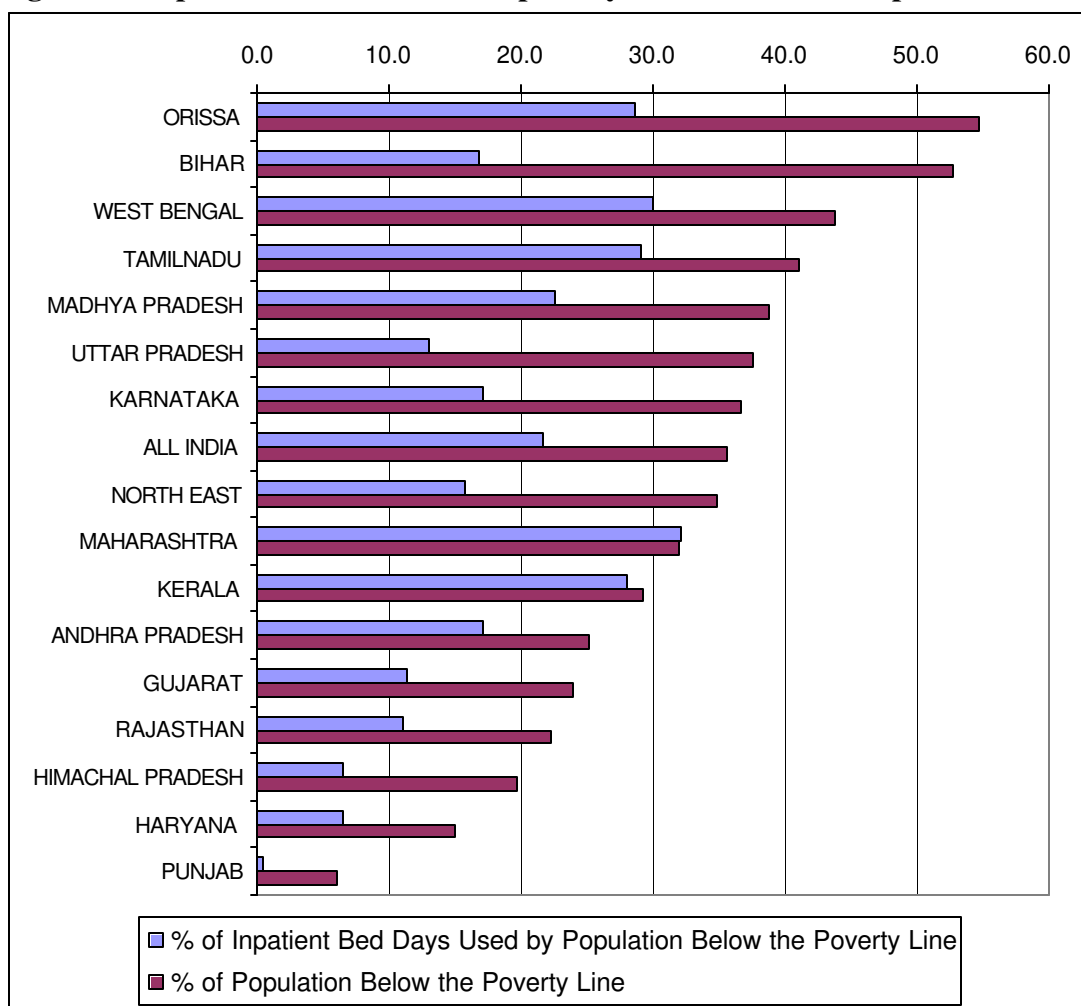
Table 1: Comparative State Equity Performance for Curative Care (Income-Level)

Rank	State	Concentration Index	T-Statistics
1	KERALA	-0.041	-2.556
2	GUJARAT	0.001	0.012
3	TAMIL NADU	0.059	1.484
4	MAHARASHTRA	0.060	1.205
5	PUNJAB	0.102	3.587
6	ANDHRA PRADESH	0.116	7.574
7	WEST BENGAL	0.157	2.988
8	HARYANA	0.201	9.092
9	KARNATAKA	0.208	3.489
	ALL INDIA	0.214	5.069
10	NORTH EAST	0.220	4.742
11	ORISSA	0.282	3.033
12	MADHYA PRADESH	0.292	7.244
13	UTTAR PRADESH	0.304	11.097
14	RAJASTHAN	0.334	5.546
15	HIMACHAL PRADESH	0.340	6.587
16	BIHAR	0.419	5.421

As in the case for the national measures of benefit incidence, the driving force behind state-level performance is the volume of use by each income group for the different types of services. And since inpatient care is the most costly to the system, analyzing state-level variations in inpatient day use by different groups gives the best picture of the equity performance.

An alternative to calculating a concentration index for inpatient care by state is to look at the share of the inpatient bed days allocated to state residents that are below the poverty line. In other words, comparing the share of the population in each state below the poverty line to the share of inpatient days used by those below the poverty line. Figure 8 maps the two measures for each state/region and for the national average. The darker bar measures the share of the population below the poverty line and the lighter colored bar measures the share of inpatient bed days used by those below the poverty lines in the state.

Figure 7: Population share below the poverty line and share of inpatient bad days



Only in two states, Maharashtra and Kerala, was the share of inpatient bed days used by those below the poverty line consistent with the percent of the population below the poverty line. In all other states and in the national average, those below the poverty line accounted for a relatively small percent of inpatient bed days. Bihar, Uttar Pradesh, Orissa and the North East states exhibited the biggest difference between the share of the population below the poverty line and the share of inpatient bed days used by that group.

The data was disaggregated further by sex to identify states where poor women received a significantly different share of the inpatient bed days than poor men. The majority of states showed little difference. The exceptions were Bihar, the North East states, and Uttar Pradesh, where poor women appear to be even more excluded than poor men. In Bihar, for example, while the share of men and women below the poverty line is similar (53 percent of women and 52 percent of men), an even smaller share of inpatient bed days was used by poor women (12 percent of total bed days used by women) than the share of inpatient beds used by poor men (20 percent of the bed days used by men). In other words, not only do the poor use inpatient care considerably less than the rich, poor women in these states use services even less than poor men.

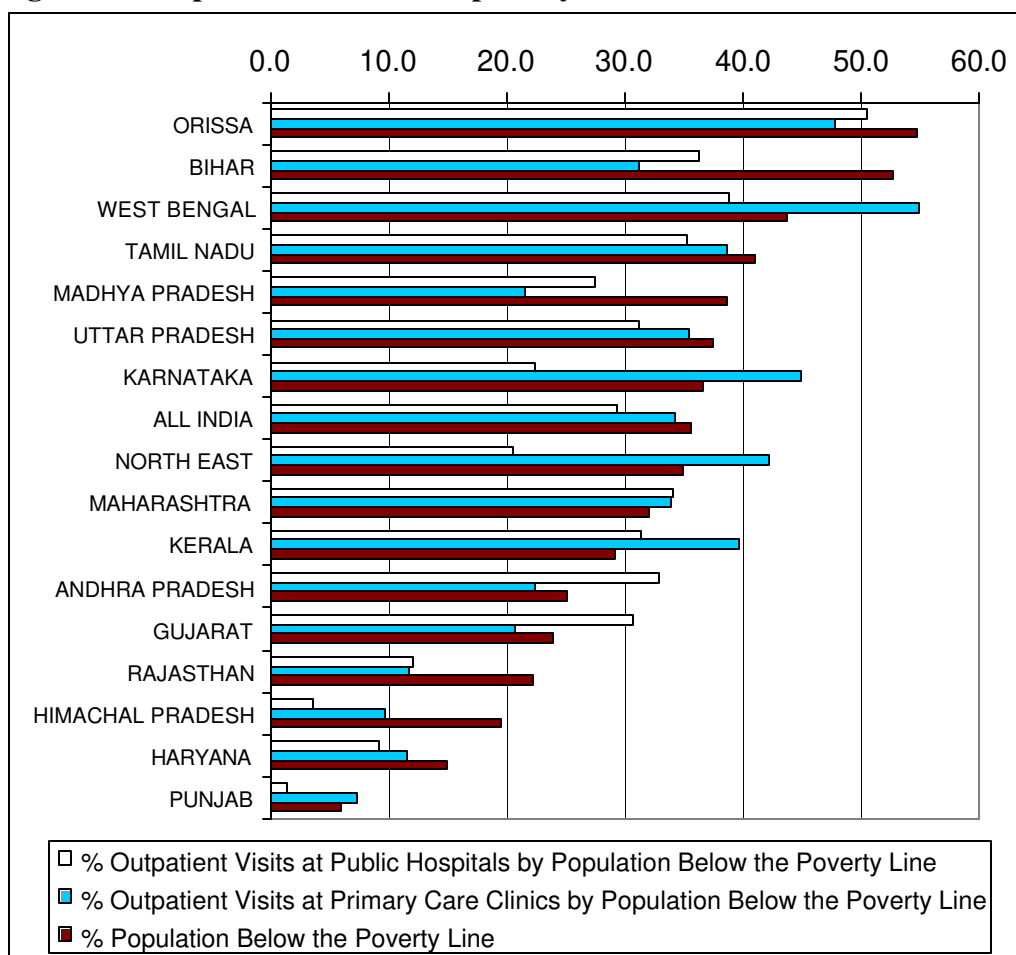
State-level findings on outpatient care (Figure 8) are complicated by the fact that the results vary by the type of facility. The household survey distinguishes between hospital based outpatient care and care at primary health care facilities. As discussed earlier, within hospital services, the survey does not distinguish between secondary and tertiary hospitals.

At the national level outpatient care is more equitable than inpatient care but hospital-based outpatient care is less equitable than care at primary health care facilities. The bottom (black) bar for each state represents the percent of the population below the poverty line. The middle (gray) bar for each state represents the share of outpatient care at facilities other than hospitals that is used by those below the poverty line. The top (white) bar for each state represents the share of outpatient care at hospitals used by those below the poverty line.

A number of patterns emerge. Consistent with the national findings, states like Tamil Nadu, Uttar Pradesh, Himachal Pradesh and Haryana show hospital-based outpatient care to favor those above the poverty line and ambulatory care at PHCs to be almost neutral. Some outliers exist and may provide excellent opportunities to further study factors influencing the equity performance of the public sector. Orissa, Bihar, and Madhya Pradesh show both types of ambulatory care to favor those above the poverty line but found hospital-based outpatient care to be less so. This may be consistent with anecdotal findings of the poor joining other groups in bypassing a failing PHC system.

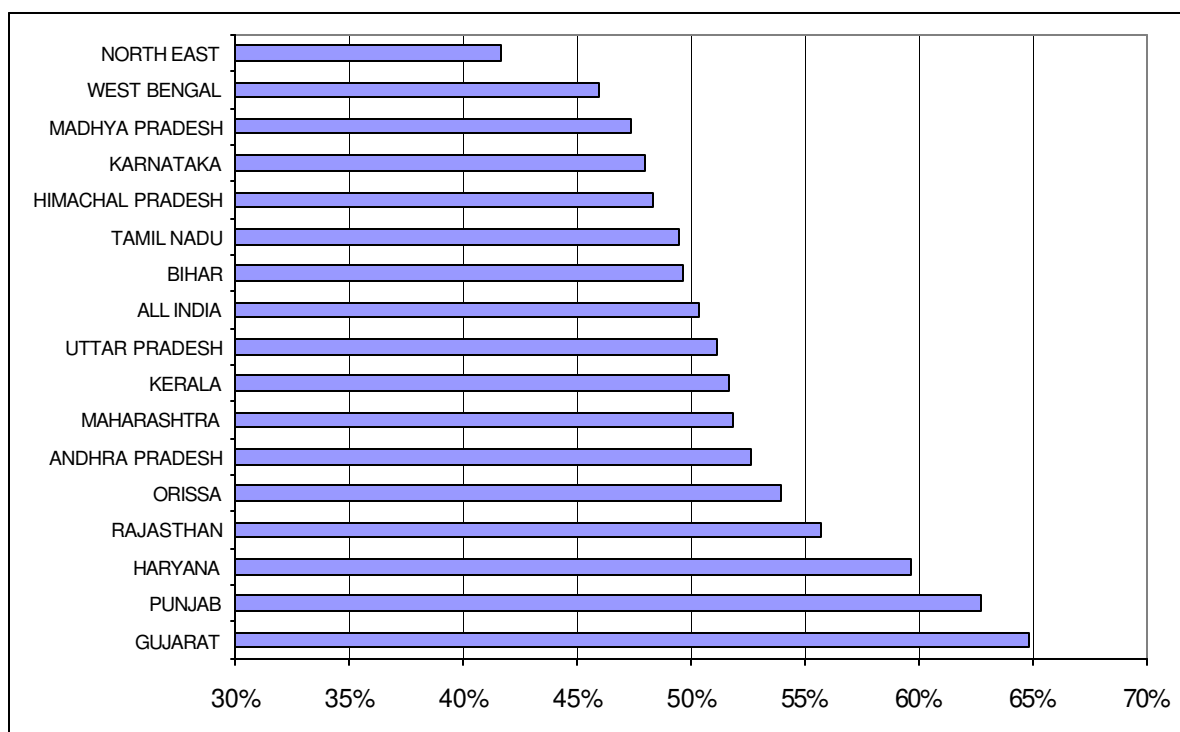
In West Bengal, Karnataka, and the North East states, hospital-based OPD favor those above the poverty line while PHC based outpatient care favors those below the poverty line. The opposite is true in Andhra Pradesh and Gujarat. And finally, two states show both types of outpatient care favoring those below the poverty line: Maharashtra and Kerala. The wealth of variability in the outpatient utilization data present an important opportunity for policy makers to explore the determinants of the equity performance. Supply-side factors such as placement of facilities, budget allocations, the level of facilities (secondary versus tertiary hospitals), and human resource and other input factors may have played important roles. On the demand side, literacy and empowerment are candidates for influencing the ability of poor households to use public facilities.

Figure 8: Outpatient care and the poverty line



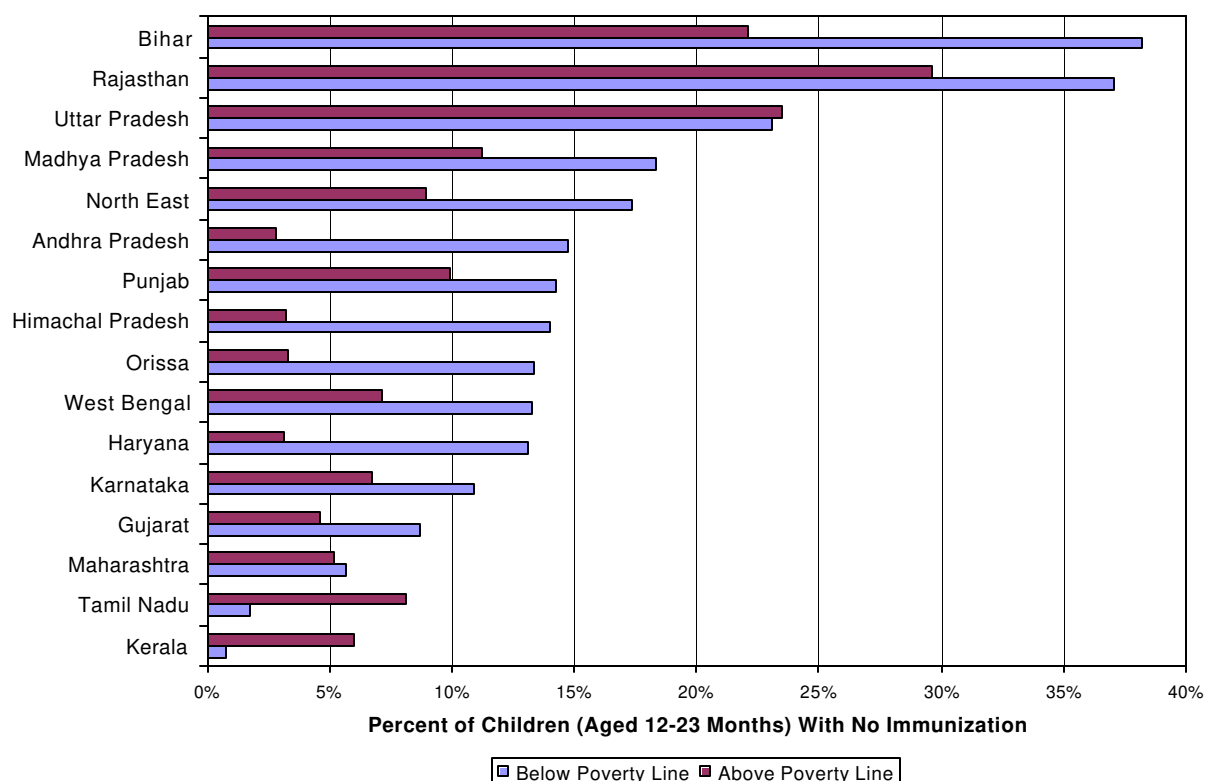
Turning to gender-specific utilization rates, while the national averages did not detect clear differences, some variations existed when the data was re-analyzed by state, especially for the poor. Taking the example of outpatient care for men and women below the poverty line. The analysis of the relative shares by state for population adjusted utilization rates did not show variability until the data was divided by urban and rural populations. Figure 9 ranks the relative shares of outpatient treatments in rural populations that are below the poverty line. While the national average is very close to 50 percent (half the treatments for women and half for men), the share of men is much higher in rural Gujarat, Punjab, and Haryana.

Figure 9: Population-adjusted share of outpatient care treatments among those below the poverty line in rural populations, for males



The study also finds considerable variability in the use of preventive services such as immunization across states in India. The findings are broadly consistent with findings from the National Family Health Survey, 1992 (IIPS 1995). Whereas public subsidies are evenly distributed, poor children continue to be the least immunized in India. National level data shows that 37 percent of all children without any immunization are from the poorest income quintile. Figure 10 shows distribution of children who have not received any immunizations. Rajasthan, Bihar, and Uttar Pradesh have the highest proportions of children without immunizations. With the exception of Kerala and Tamil Nadu, where there are few un-immunized children, children below the poverty line have higher proportions un-immunized than those above the poverty line.

Figure 10: Percent of children aged 12-23 months without any immunizations, among those above and below the poverty line



State-level public and private choices

Considerable variations in the choice between private and public provision exists between states. To simplify the presentation, only analysis of inpatient curative care and inpatient delivery services will be summarized. The two services were chosen in part due to the fact that hospitalization accounts for the largest outlay of both public and private resources. Another factor is the importance of institutional deliveries as both a determinant and leading indicator for maternal morbidity and mortality. An finally, these two indicators exhibited the largest amount a variation between states, by poverty category and between the private and public sectors.

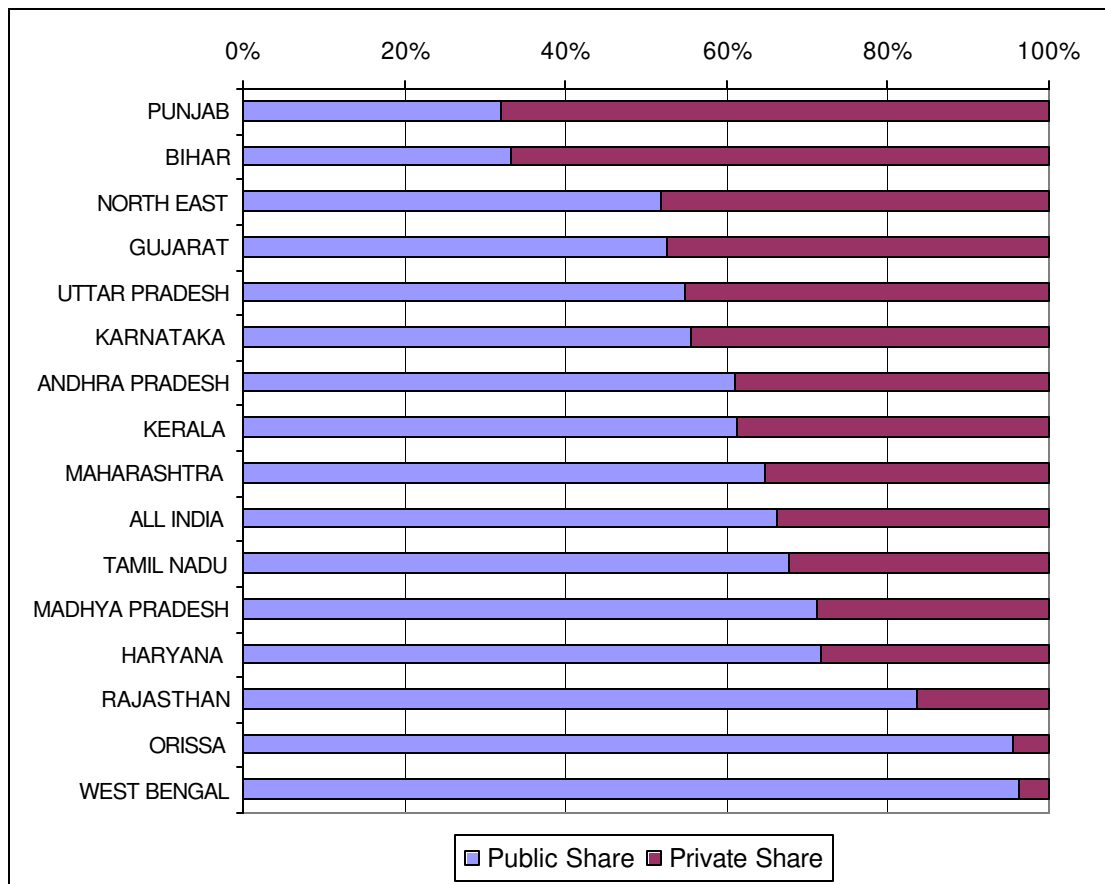
Starting with inpatient care, while the national level shows a relatively even distribution in the inpatient bed days between the two sectors¹, many states are far below or above the national average. Specifically, Himachal Pradesh (92 percent in the public), Orissa (89 percent), West Bengal (81 percent), the North East states (77 percent) and Rajasthan (74 percent) exhibited considerably higher relative use of public hospitals over private

¹ Note that while 56 percent of hospitalizations took place in the private sector, 50 percent of the inpatient bed days took place in the public sector. This apparent discrepancy is due to a longer average length of stay at public sector hospitals.

options. States where the reliance was higher in relative terms on the private sector for hospitalization were Haryana (only 24 percent of bed days in the public sector), Punjab (34 percent) and Maharashtra (36 percent).

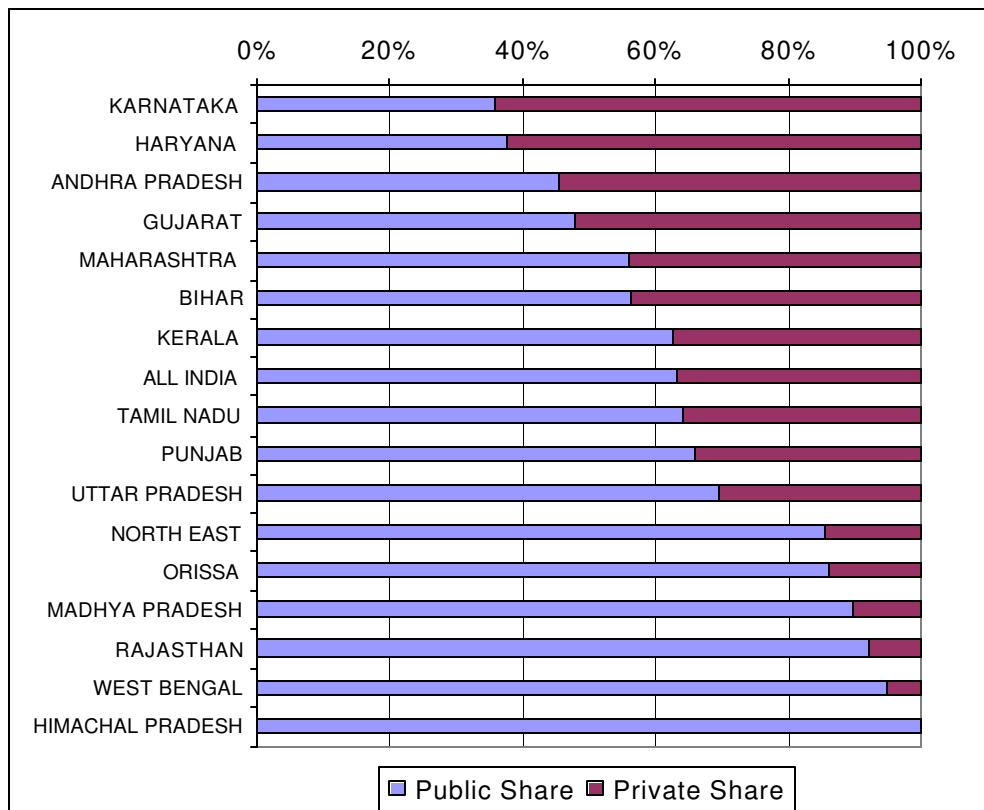
Since the focus is on the poor, it was important to look for state variations in the choices for those below and above the poverty line. Figure 11 shows the large variations ranging from high public sector reliance by the poor in Himachal Pradesh, West Bengal, and Orissa, to limited use of the public sector by the poor in Punjab and Bihar.

Figure 11: Percent of inpatient bed days in the public and private sector for those below the poverty line



Applying the same methodology to institutional deliveries, we find similar variations in state use patterns. The national average for the share of bed days for deliveries in the public sector was 50 percent. A number of states exhibited utilization rates significantly larger than the national average: Himachal Pradesh (93 percent of bed days in the public sector), Orissa (89 percent), Uttar Pradesh (81 percent), and the North East states (77 percent). States exhibiting less reliance on the public sector included Haryana (24 percent of the bed days in the public sector), Punjab (34 percent) and Maharashtra (36 percent). When the data is segmented by the poverty line, the basic pattern of private-public choices by state remained with poor women relying more heavily on the public sector than rich women (Figure 12).

Figure 12: Percent of delivery bed days in the public and private sector for women below the poverty line



V. Summary and Discussion

Limits of the Methodology and Data

As the results are summarized and the policy implications highlighted, it is important to clarify what the methodology can and cannot show. All empirical work is limited not just by the choice of analytical methodology, but by the data used. The methodology chosen for this study, benefit incidence analysis, allows policy makers to trace the benefits derived from publicly financed services to different population groups clustered by income, gender, residence and tribal and caste affiliation. The use of utilization analysis allows to compare the use of public and private services and to further explore choices within the public sector. The limitations of the methodology include:

- Equity in use of resources and services need not be the same as impact and does not take into account quality of care variability.
- Benefits to society from services with externalities (e.g. immunizations) cannot be measured through BIA or utilization rates.
- Documenting inequality is only one step in understanding the reasons behind it.

Data-specific limitations include:

- The NSS household survey could not distinguish the level of hospital (e.g. tertiary versus secondary).
- There was not a comparable source of data on the health needs of the different socio-economic groups.
- The study did not compare the benefits from the public resources to the financial burden on the same socio-economic groups from tax-based public financing.

Summary of Findings

The voluminous findings documented here and in the background paper point to a number of national and state-level trends. The list includes:

- Like most developing countries, publicly financed and delivered curative health care services in India are more likely to service the richer segments of the population than the poor.
- The private sector for curative health care delivery is even more skewed towards the rich than the public sector.
- Those below the poverty line continue to rely heavily on the public sector (93 percent of immunizations, 74 percent of antenatal care, 66 percent of inpatient bed days, and 63 percent of delivery related inpatient bed days).
- Tertiary-level hospital services, out and inpatient, are more likely to be used by the richest quintile than the poorest. Non-hospital-based services are income neutral.
- Public services in urban areas are more equitably used than those in rural areas.
- At the national level, gender as well as caste and tribal affiliation do not appear to make a difference in utilization rates.
- The private sector dominates for outpatient care (82 percent), represents a slight majority for hospitalizations (56 percent), accounts for 46 percent of institutional deliveries and 40 percent of antenatal care visits, and delivered only 10 percent of the immunization doses.
- There were considerable state-level variations for most of the findings. Overall, Southern and Western states had a more equitable use pattern for public services than states in the North and North East parts of the country. Some specific findings included:

1. Kerala was the only state that showed a pro-poor concentration index while Gujarat, Tamil Nadu and Maharashtra had concentration indices not statistically different from 0. Bihar, Himachal Pradesh, Rajasthan, Uttar Pradesh, Orissa and the North East states had a pro-rich orientation for public spending on curative care.
2. For inpatient curative services at hospitals, Maharashtra and Kerala were the only states where the share of inpatient bed days used by those below the poverty line was similar to the share of the population below the poverty line. The smallest shares for those below the poverty line were in Bihar, Uttar Pradesh, Orissa and Karnataka.

3. A number of patterns were found in the use of publicly provided outpatient care services. Studying the causes for the differential performance presents an excellent opportunity for learning about the equity impact of policies and processes.
4. While the national averages showed no clear gender differences, state-level findings showed differences in Gujarat, Punjab, and Haryana.
5. Two states, Punjab and Bihar, stand out in terms of the limited reliance of the poor on the public sector for curative care inpatient services and delivery-related inpatient services (less than 40 percent for both states and both services).

So What?

A clear message of the findings is that publicly financed health services in India continues to represent the best method for providing critical services for the poor and that some states are able to ensure that public financing is not skewed to the rich. The overall picture, however, points to many more states not doing enough to protect the access and use of health services by the poor. State-level variability points to the need for customization of public policies at the state level but points to four basic areas of focus.

Resource allocation. A number of resource allocation decisions may be considered by states and the central government:

- Given the dominant use of tertiary hospitals by the richest, the public sector may want to consider reallocating portions of the budget to primary and secondary facilities.
- Since on equity grounds (as well as efficiency), preventive care services appear to be good investments, the public sector may want to consider reallocating portions of the budget to preventive care.
- The urban/rural differences point to the need to increase resource allocation to rural areas.
- Given the low level of use of inpatient beds at primary care facilities a re-consideration of this investments strategy may be needed.

Facility placement and access for the poor. An important determinant of use of health services, especially for poor families, is the location of facilities. The differences in the equity picture of the use of facilities in urban and rural settings may be explained by the ease of physical access to the poor in cities. The variability in the states may be examined, using poverty density maps and facility locations, to confirm this conclusion.

Setting targets and monitoring outcomes. Given the importance given to equity in the public health sector in India, this study present an opportunity for policy makers to set equity-specific targets for resource use in terms of inputs and outputs. For example, resource allocation targets could be set for geographic coverage (preferably biased towards areas with high levels of poverty) and service level budgeting (balance between tertiary, secondary, and primary). Output targets may include annual distributional reviews of service use in random locations. Such mechanisms could be used to assess performance and linked to incentives from the center in the form of performance related budgeting.

Documenting and explaining good practice. Another possible use of the variations in equity performance is to build upon the findings to document good practice and, more importantly, explore the causes of both good and bad practice. As mentioned earlier, empirical analysis can point to areas of excellence or weakness but cannot, with much depth, explain the results. Qualitative analysis could explore the extent to which different supply and demand factors play in achieving good equity outcomes in several states. International experience points to factors such as:

On the supply side:

1. Placement of facilities away from poor populations
2. Staffing distribution for publicly provided facilities.
3. Resource allocation geographically
4. Resource allocation by level of care and type of.

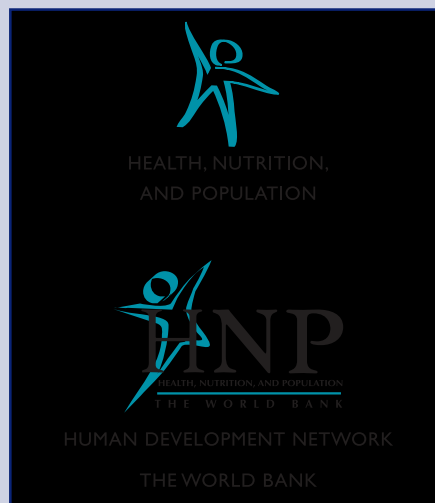
On the demand side:

1. Lack of knowledge (linked to education and access to information)
2. Real costs relating to transportation and waiting time (linked to placement of facilities)
3. Quality and perception of quality (uncertainty about the availability of drugs or services)
4. Uncertainty about payment (especially under the table payments)

The existence of a number of Indian states: Kerala, Maharashtra, Tamil Nadu, and Gujarat, where publicly financed and provided health care services do not favor the rich, provides evidence that the public sector can be equitable. It is also interesting to note that there is some evidence, in terms of health outcomes, that the health sector in the same states is also efficient. On the other extreme of the spectrum, some states have health sectors that are both inequitable and inefficient. The challenge then for the Government of India is to replicate the positive results in the well performing states through policies at the central and state levels.

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