

Trends and Differentials in Health Care Utilization Pattern in India

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Abstract

The results from this study indicate that a vast majority of people (almost 80 per cent) in India use the private sector for outpatient care curative services, albeit a slight decline is noted between 1995–96 and 2004. The utilization of private sector for outpatient services has become more inequitable across expenditure quintiles, favouring the rich at the national level during the period 1995–96 to 2004. There are also large inter-state variations in the choice between private and public provision for poor and non-poor people at the state level. The results indicate that Himachal Pradesh is the only state where the public outpatient services are well targeted and fairly accessible to the poor people (84 per cent) than other states. The multivariate analysis suggests that the gap in access to private provider for outpatient care between poor and non-poor, highly educated and uneducated and scheduled tribes (STs) and other social groups have broadened over the study period. Unlike outpatient care, the results show a trend of declining use of public health facilities for inpatient care. A sizeable proportion of the poor were forced to visit private provider due to non-availability of public facilities: this suggests the need for the public health care system to be responsive to the needs of the poor by ensuring availability of quality services in the public facilities.

Keywords

Healthcare utilization, poor, non-poor, choice of provider, India

Introduction

A total of 35 years have passed since India and other developing nations signed the Alma-Ata declaration which called for actions by the countries to achieve ‘health for all’ by the year 2000. In India, health has been viewed as a basic need since Independence and the commitment to address the health care needs of the poor and vulnerable was reiterated in the post Alma-Ata National Health Policies of India in 1983 and 2002. The relationship between health and economic growth is well established and improving the health of the disadvantaged is a priority for any health care system since good health increases productivity which in turn increases economic growth and reduces poverty. One of the main

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determinants of good health, and a focus of this paper, is the appropriate use of curative health care services (Mahal et al. 2001).

In accordance with India's commitment to equity, huge public investment has been made over the years to create an extensive public health care system, though fell short of that necessary to provide health care to all, right from the first five year plan period. Moreover, the public spending on health care had been on the lower side for a considerable period of time due to tight fiscal situation faced by most of the state governments in India during the nineties. The inadequate resources for the public health facilities have severely constrained their ability to meet the growing health care demand, deteriorated the quality of public health services and pushed people to seek care from other sources.

It is important to note that there has been a tremendous growth in the health care infrastructure across the country and both in rural and urban areas in the last two decades. The obvious outcome of this is the increase in 'health ideals' of the people, change in their perception, beliefs and treatment seeking behaviour. Notably, much of this growth has taken place in the private health care sector. Nearly two-thirds of the medical man power is involved in the private sector. The rising demand for private care has led to a significant increase in the cost of private health care services over the last two decades in India (Bhat 1999; Dilip 2002; Purohit 2001). This has considerably affected the ability of the poor and casual workers to purchase a number of private health care services, limited their health care options and pushed them to the less attractive but cheaper public sector (Levesque et al. 2006; Vaidyanathan 2001).

Against this backdrop, the objective of this paper is to explore the shift in health care utilization pattern in general as well as for poor and non-poor population during the period 1995–96 to 2004 and in particular, to examine the inequities in access to various health care services. The second objective of this article is to understand the reasons for non-utilization of public sector for outpatient care. Third, this paper attempts to determine the changes in socio-economic differentials in patterns of health care utilization to obtain some insights into what policy changes might be needed.

Data and Methods

Cross-sectional data are taken from National Sample Survey Organization's 52nd (1995–96) and 60th round (2004) survey on 'morbidity and health care'. These surveys are both nationally and state representative. It collected information on individual and household socio-economic backgrounds, ailments, utilization of health care services provided by public and private sectors and out-of-pocket health payments. The sampling design was stratified in two stages with census villages and urban blocks as the first stage units (FSUs) for the rural and urban areas, respectively, and households as the second stage units (SSUs). The survey period, January–June 2004, comprises two sub-rounds of three months each. The rural and urban samples of FSUs were drawn independently with two sub-samples and equal numbers of FSUs of each sub-sample were allocated for the two sub-rounds to ensure an equal spread of sample FSUs over the entire study period. The total sample consists of 629,888 and 383,338 usual members of the households covered in the survey for the period 1995–96 and 2004 respectively. Since both 52nd (1995) and 60th rounds (2004) of NSS surveys are based on similar survey design, concepts, definitions and reference period, the estimates from these surveys are comparable, nationally and state-wise.

In both surveys (52nd and 60th rounds of NSSO), information have been collected from the households on their monthly consumption expenditure to assess the economic status of the households. These data are used to obtain the monthly per capita consumption expenditure by dividing the relevant household consumption expenditure per month by household size. Following this, the individuals are identified as being *poor* whose per capita monthly consumption expenditure is less than the official poverty line for the year 1995–96 and 2004¹. The poverty lines are created for each state as well as for rural and urban populations within each state. In addition, the adjusted monthly per capita consumption expenditure is calculated using the Organisation for Economic Co-operation and Development (OECD) equivalence scale to take into account the economies of scale related to household size and composition. Poor people who came out of the poverty bracket after adjustment are considered as *moderately poor*; those remained below the poverty line even after adjustment are identified as *extremely poor*.

To fulfil the above objectives, first the increase in public spending and expansion of public facilities are examined using information from various secondary sources. Changes in outpatient and inpatient care utilization pattern for poor and non-poor people between 1995–96 to 2004 is studied by analyzing level of utilization form public and private sector. Chi-square tests are performed to confirm any significant associations between the variables under study. Since the dependent variables are dichotomous in nature and independent variables are categorical, the socio-economic differentials in use of private sector for treatment of ailments are studied by applying multivariate binary logistic regression models.

Findings

Trends in Per Capita Spending on Health by the States

Table 1 presents the absolute levels and change in per capita public expenditure on health by the states, arranged in ascending order by GSDP per capita, between 1995–96 and 2003–04 (data were not available for Bihar). It appears from the table that although in general, middle and high income states spend more on health per capita, considerable variation exists across states and further, these gaps have widened over time. In 1995–96, for example, the spending was almost double in highest spending state, Tamil Nadu (₹106) than that in Orissa and Uttar Pradesh (₹59) in 1995–96.

By 2002–03, the differences have accentuated and per capita expenditure in Uttar Pradesh was less than a third of Punjab, the highest spending state in that year. Another non-trivial observation is that the real per capita spending has declined over this period in three major states—Uttar Pradesh, Assam and Rajasthan. Notably, all these states are low-income states and hence, the falling public health investment could deteriorate the state of public health services as the public health care facilities in these states were already resource crunched.

Expansion of Public Health Sector in India

Increase in the number of public health facilities (secondary and tertiary allopathic hospitals) during the study period is presented in Table 2 (data are not available for few states). The growth of hospitals was 22 per cent at the national level between 1995–96 and 2004. However, states vary widely in the

Table 1. Per Capita Spending by State Governments on Health and Family Welfare Together (in constant 1993–94 prices)

	1995–96 (in ₹)	As Per cent of Highest	2002–03 (in ₹)	As Per cent of Highest
Uttar Pradesh	59	56	48	33
Orissa	59	56	75	52
Assam	78	73	63	44
Madhya Pradesh	65	61	70	49
Rajasthan	101	95	94	65
West Bengal	72	68	102	71
Andhra Pradesh	70	66	106	74
Karnataka	88	83	119	83
Kerala	105	99	131	91
Tamil Nadu	106	100	117	81
Gujarat	89	84	106	74
Haryana	74	70	88	61
Maharashtra	87	82	105	73
Punjab	100	94	144	100

Source: Centre for Monitoring Indian Economy (various years).

Note: States are arranged in ascending order according to the GSDP in 2002–03.

growth of public hospitals over the study period (reference period varies for some states). The number of hospitals has risen more than twice in Himachal Pradesh. Apart from Himachal Pradesh, states such as Maharashtra (163 per cent), Andhra Pradesh (147 per cent), Haryana (125 per cent), Rajasthan (71 per cent), Gujarat (61 per cent) and Karnataka (55 per cent) experienced significant increase in the number of hospitals over time. In contrary, there was negative growth in two states—(-1.9 per cent) and Punjab (-9.6 per cent).

Unlike hospitals, the growth of beds was only 1 per cent at the national level. There are considerable variations across states in the growth of government hospital beds. Although the number of beds, in general, has increased in majority of the states, there are exceptions. For example, while the number of hospital beds has grown by almost eight times over the study period in Andhra Pradesh, Tamil Nadu experienced a decline of 37 per cent in the absolute number of beds. The three other states that experienced a decline in the number of hospital beds are Punjab, Rajasthan and Orissa. It is important to note that the population–public–hospital bed ratio has sharply declined at the national level during the study period. This would negatively affect the quality of care in the public hospitals as the supply of services would be inadequate to meet the demand. However, there is wide variation across states in terms of changes in per capita availability of public hospital beds over the study period.

While the ratio has improved considerably in Andhra Pradesh, Maharashtra, Himachal Pradesh, Gujarat and Karnataka, it has surprisingly fallen in Tamil Nadu, Rajasthan and Punjab during this period.

Table 2. Growth of Public Secondary and Tertiary Hospitals (Allopathic) and Hospital Beds in India and Selected States in 1995–96 and 2004

States	1995–96				2004				1995–2004	
	Total No. of Government Hospitals	Reference Period	Total Population Served Per Government Hospital Bed		Total No. of Government Hospitals	Total Number of Government Hospital Beds	Population Served Per Government Hospital Bed	Reference Period	Growth of Hospitals (Per cent)	Growth of Beds (Per cent)
			Number of Government Hospital Beds	Government Hospital Bed						
Andhra Pradesh	148	1994	3,640	19,214	366	32,462	2,419	2004	147	791
Gujarat	312	1995	22,229	2,014	503	35,056	1,564	2004	61	58
Haryana	59	1996	4,948	3,750	133	7,118	3,078	2004	125	44
Himachal Pradesh	46	1996	4,810	1,244	141	7,771	810	2004	206	61
Karnataka	209	1996	27,736	1,779	325	34,487	1,590	2004	55	24
Kerala	141	1994	28,030	1,077	193	25,622	1,283	2004	37	8
Madhya Pradesh	363	1992	18,141	3,770	377	19,918	3,392	2005	4	10
Maharashtra	445	1993	34,261	2,356	1,170	76,447	1,325	2004	163	123
Orissa	411	1996	14,572	2,363	403	12,872	2,963	2004	-1.9	-12
Punjab	177	1996	10,936	2,045	160	8,973	2,824	2004	-9.6	-18
Rajasthan	218	1996	21,187	2,347	372	18,306	3,285	2004	71	-13
Tamil Nadu	282	1990	37,935	1,440	342	23,981	2,670	2004	21.3	-37
West Bengal	243	1996	47,825	1,560	268	50,545	1,653	2004	10.3	6
India	4,473	1996	37,5987	2,485	5,479	380,993	2,834	2004	22.5	1

Source: Central Bureau of Health Intelligence, Government of India (various years).

Pattern of Outpatient Care Utilization

In this section, the level and trends of outpatient care utilization in the public and private sectors are examined.

Trends in Public and Private Choices of Outpatient Care Utilization at State and National Level

Figure 1 shows the distribution of outpatient treatment by public and private providers for each state and for the national average. Results indicate that the private sector continues to play a dominant role in the provision of outpatient services with 79 per cent resorting to a private source of care in 2004 compared to 81 per cent in 1995–96 with an increase of 2 percentage points in utilization from public source of care over time. Private health care accounts for more than 80 per cent of total outpatient care utilization for majority of the states. However, the north-east, Himachal Pradesh, Kerala, Rajasthan and Orissa were the few states where the utilization of public health services was in the range of 30 to 51 per cent in 1995–96. Notably, all these states except Rajasthan and Orissa recorded decline in the utilization of public health services over the study period. Interestingly, Bihar (96 and 94 per cent in 1995–96 and 2004, respectively) and Uttar Pradesh (94 and 89 per cent, respectively in 2004), despite being the most economically

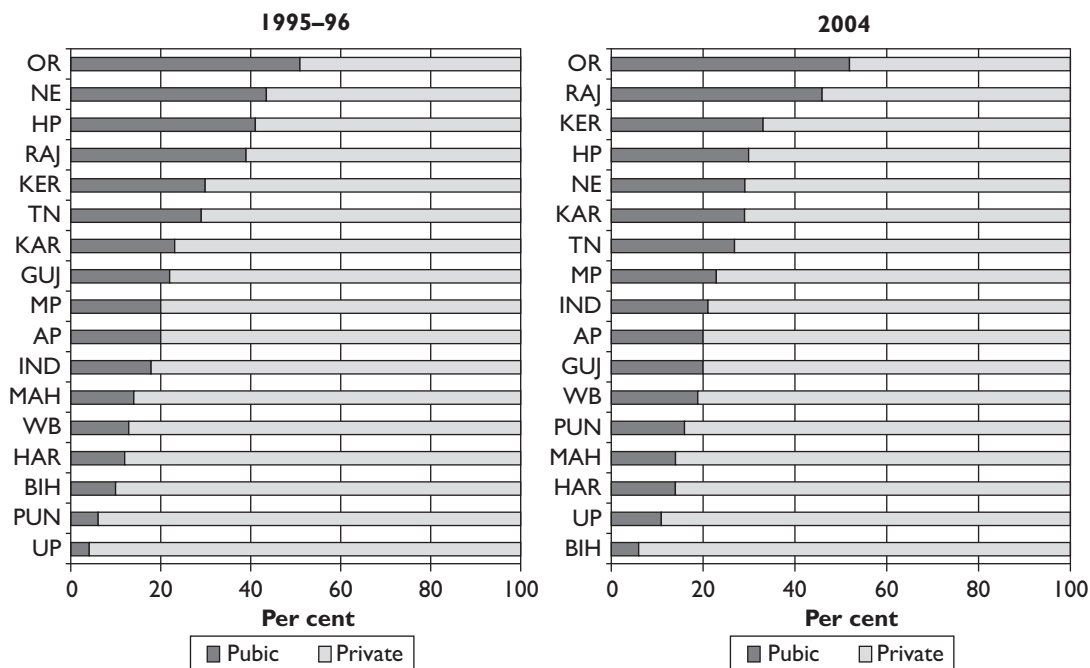


Figure 1. Percentage Distribution of Outpatient Treatment between Public and Private Sectors for Population of States, 1995–96 and 2004

poorer states of India continue to have the highest utilization rate from private source of care; though it showed some indication of decline in recent times. This is not surprising since the per capita public spending on health is one of the lowest in Uttar Pradesh and has also declined over time.

The inadequate public health care services in these states has forced the people to access private care whereas in richer states, people are turning to private care providers as they perceive that the quality of health care is better in private facilities. The following section would provide more insights about why majority of the respondents are not using public health care services for ambulatory care.

Reasons for Non-utilization of Outpatient Services from Public Sector

The analysis suggests that most respondents preferred private source of care because of their dissatisfaction with the services of the government doctor or public facilities, problems of access in the public sector, long waiting and other reasons (Figures 2 and 3). Moreover, the proportion of people who did not utilize the services from the public facilities because of 'perceived low quality of public health care' and 'long waiting' has considerably increased during the period 1995–96 to 2004. Although individuals of all income quintiles reported problems with the availability and quality of services in the public facilities, a relatively higher proportion of people from poorest, 2nd and 3rd quintiles cited the non-availability of public facilities (Tables 3 and 4). On the other hand, quality was the most important issue for the individuals of the richer quintiles. In 2004, while at least one-fifth of the individuals of the poorest quintile were compelled to choose private care because the public facility was very far and thus inaccessible, almost half of the individuals of richest quintile utilized private care because of poor quality of services in the public facilities.

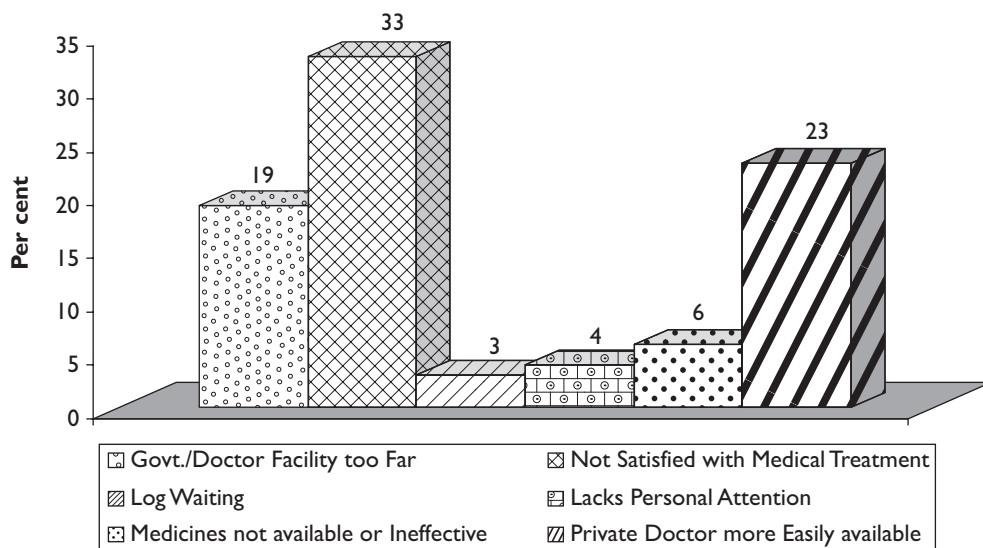


Figure 2. Percentage Distribution for Reasons for Not Seeking Treatment from Government Sources, India, 1995–96

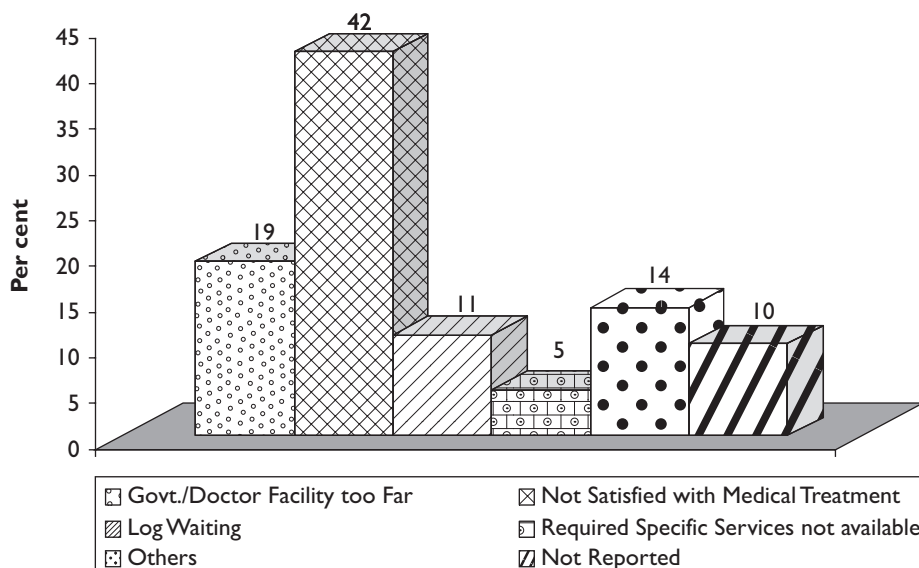


Figure 3. Percentage Distribution for Reasons for Not Seeking Treatment from Government Sources, India, 2004

Table 3. Reasons Expressed for Not Utilizing Public Health Care Services for Outpatient Care, India, 1995–96

	Poorest	2nd Quintile	3rd Quintile	4th Quintile	Richest
Public facility too far	19	22	22	18	15
Poor quality of services in public facilities	25	29	31	35	38
Long waiting	3	2	2	3	3
Lacks personal attention	4	3	5	4	5
Medicine not available or ineffective	7	8	6	6	6
Private doctor easily available	26	22	23	21	23
Other reasons	7	5	5	5	5
Not reported	9	7	6	6	5

Table 4. Reasons Expressed for Not Utilizing Public Health Care Services for Outpatient Care, India, 2004

	Poorest	2nd Quintile	3rd Quintile	4th Quintile	Richest
Public facility too far	21	22	21	18	15
Poor quality of services in public facilities	34	37	40	46	46
Long waiting	8	10	10	11	13
Required specific services not available	4	5	4	4	6
Other reasons	16	13	13	12	14
Not reported	17	12	11	8	6

Trends in State and National Level Public and Private Choices for Outpatient Care by Poor and Non-poor People

Figures 4 and 5 show outpatient care utilization in the private and public sectors by expenditure quintiles for India. It can be seen that people from richer quintiles use outpatient care more from private providers than their poorer counterparts. More importantly, the use of public care increased across expenditure

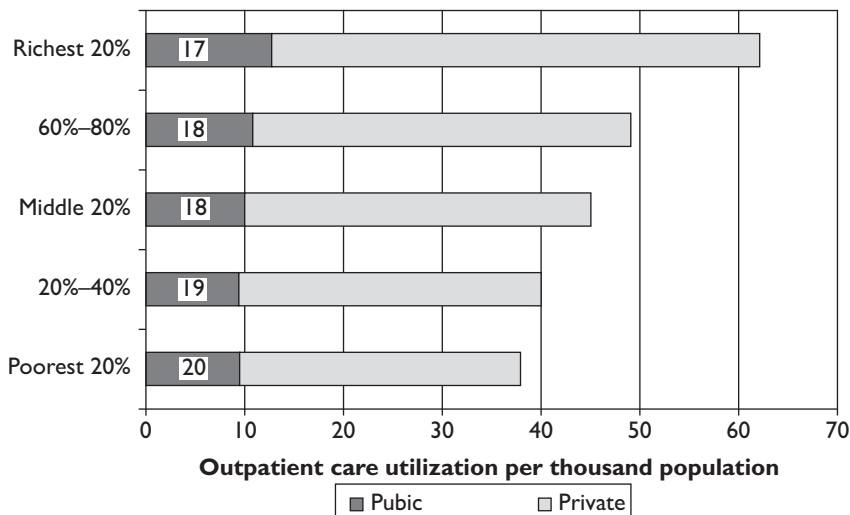


Figure 4. Public and Private Sector Outpatient Care Rates by Expenditure Quintile, India, 1995-96

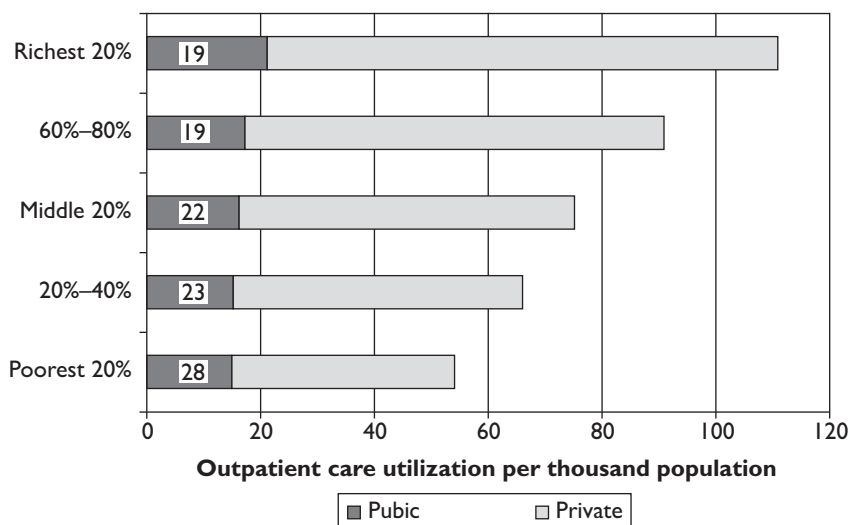


Figure 5. Public and Private Sector Outpatient Care Rates by Expenditure Quintile, India, 2004

quintiles but the rate of growth is highest in the poorest and 2nd poorest quintiles during the period 1995–96 to 2004. A total of 28 per cent people from the poorest quintile chose public care in 2004 compared to only 19 per cent in 1995–96. This indicates that the poor are gradually shifting towards public sector for accessing outpatient treatment.

Nevertheless, considerable variations exist in the choice between private and public provision for poor and non-poor people at state level (Figures 6 and 7). The proportion of poor people utilizing public source of outpatient care has considerably increased in Himachal Pradesh (63 and 84 per cent in 1995–96 and 2004 respectively), Rajasthan (16 and 57 per cent in 1995–96 and 2004 respectively), Orissa (55 and 57 per cent) and Kerala (42 and 48 per cent) over the study period whereas this proportion has come down considerably in Gujarat (48 to 26 per cent from 1995–96 to 2004), the north-east (44 to 29 per cent from 1995–96 to 2004) and Maharashtra (33 to 27 per cent from 1995–96 to 2004).

Socio-economic Differentials in the Choice of Outpatient Care Utilization

Table 5 describes the associations of various background variables with utilization of private health care services for periods of 1995–96 and 2004. Highest and lowest utilization of private services are reported at the top and bottom ends of the age range; 85 and 86 per cent for the children aged below 2 years; and 80 and 76 per cent for 60 years or older. Logistic modelling of choice of a private source of care also

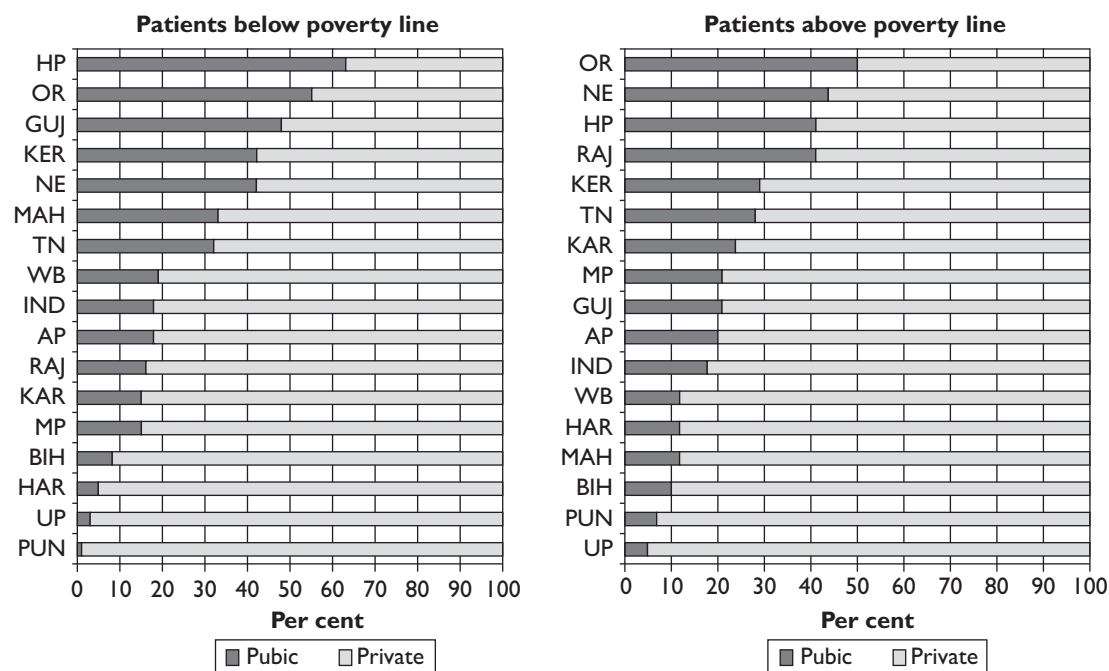


Figure 6. Percentage Distribution of Outpatient Treatment by Expenditure Status of Patients between Public and Private Sector in India and Selected States, 1995–96

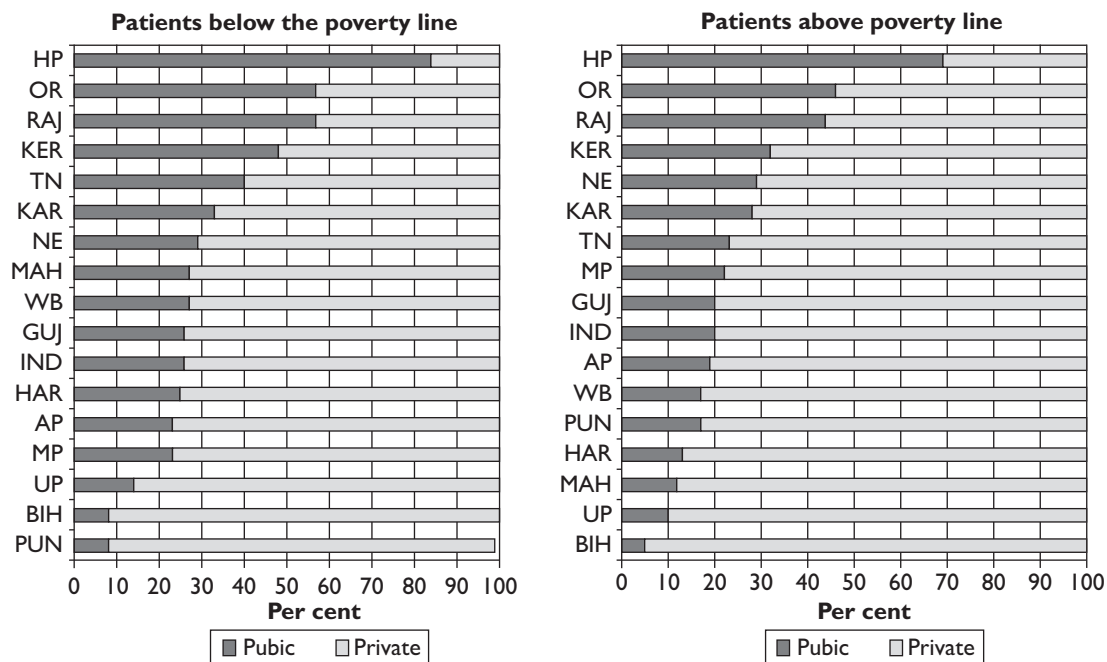


Figure 7. Percentage Distribution of Outpatient Treatment by Expenditure Status of Patients between Public and Private Sector in India and Selected States, 2004

Table 5. Associations (Weighted) of Study Variables with Choice of Private Source of Outpatient Care (Per cent), 1995–96 and 2004

Background Characteristics	1995–96	2004	Background Characteristics	1995–96	2004
Age			Household source		
Below 2 years old	85 ^a	86 ^a	Other labour	82 ^a	79 ^a
2–17 years old	82 ^a	80 ^a	Casual labour	75 ^a	72 ^a
18–59 years old	82 ^a	78 ^a	Quintile		
60 years and older	80 ^a	76 ^a	Poorest	80 ^a	72 ^a
Sex			2nd quintile	82 ^a	78 ^a
Male	81	79 ^b	3rd quintile	80 ^a	79 ^a
Female	82	78 ^b	4th quintile	81 ^a	79 ^a
Marital status			Richest	84 ^a	83 ^a
Never married	82 ^a	81 ^a	Poverty status		
Currently married	82 ^a	78 ^a	Very poor	75 ^a	73 ^a
Divorced/separated	80 ^a	75 ^a	Moderately poor	83 ^a	76 ^a
			Non-poor	82 ^a	80 ^a

(Table 5 Continued)

(Table 5 Continued)

Background Characteristics	1995–96	2004	Background Characteristics	1995–96	2004
Household size			Region		
< = 4	80 ^a	77 ^a	East	77 ^a	78 ^a
5–6	80 ^a	78 ^a	West	83 ^a	84 ^a
7 +	84 ^a	80 ^a	North-central	89 ^a	82 ^a
Social Group			North	83 ^a	77 ^a
ST	69 ^a	68 ^a	South	75 ^a	72 ^a
SC	81 ^a	74 ^a	Residence		
OBC	NA	79 ^a	Rural	81 ^a	78 ^a
Others	83 ^a	81 ^a	Urban	82 ^a	81 ^a
Education^a			Illness (Days)		
Illiterate	82 ^a	76 ^a	0–3	81	82 ^a
Literate upto middle	80 ^a	78 ^a	4–7	81	80 ^a
> Middle or higher	84 ^a	83 ^a	7+	82	77 ^a
Structure of House					
Pucca	84 ^a	81 ^a			
Semi-pucca	80 ^a	76 ^a			
Kutchra	79 ^a	71 ^a			
Sample (N)	28,757	30,459			

Notes: ^aPearson's χ^2 statistics $P \leq 0.001$; ^bPearson's χ^2 statistics $P \leq 0.005$.

showed a significant effect of age (Table 6). The odds of utilizing private source of care is highest among the children aged below 2 years, followed by persons aged 2–17 years and aged persons (60 years or more). Gender differences have become more pronounced over the study period with women having higher odds of utilizing private source of care (OR = 1.07, $p < 0.05$ in 1995–96 and OR = 1.10, $p < 0.001$ in 2004) than men. Marital status is not found to be significantly associated with choice of outpatient provider. However, significant association is found between social status and utilization of private source of care.

For both the periods 1995–96 and 2004, the use of private source of care is higher among the social groups such as SC, OBC and 'others' compared to 'ST'. Moreover, the disparity in accessing private source of care by different social groups has widened during this period with the persons of 'SC', 'OBC' and 'Others' category having greater likelihood of choosing private health services than scheduled tribes in 2004 compared to 1995–96.

The analysis indicates that SES variables are the most important determinants for the choice of outpatient source of care. Although in 1995–96, education did not exhibit any significant association with choice of private source of care, the individuals with above middle education are found to have higher odds of utilizing care from a private health care provider than their illiterate counterparts in 2004. The economic status of the individuals is found to be an important determinant for the choice of a private health care provider for outpatient treatment. The probability of utilizing a private source of care is higher for persons from semi-pucca or pucca house as well as from a non casual worker household.

Table 6. Choice of Private Provider for Outpatient Services (Quintiles), India, 1995–96 and 2004

Background Characteristics	1995	2004	Background Characteristics	1995	2004
Age			Pucca	1.30*	1.55*
Below 2 years old	1.43*	1.23*	Household source		
2–17 years old	1.14***	1.08	Other labour	1.30*	1.31*
18–59 years old	1	1	Casual labour	1	1
60 years and older	1.00	0.98	Quintile		
Sex			Poorest	1	1
Male			2nd quintile	1.05	1.20*
Female	1.07***	1.10*	3rd quintile	1.10	1.19*
Marital status			4th quintile	1.08	1.31*
Never married			Richest	1.23*	1.44*
Currently married	1.07	0.96	Region		
Divorced/separated	0.95	0.94	East		
Household size			West	1.69*	1.68*
< = 4			North-central	2.00*	1.20*
5–6	0.98	1.01	North	0.90***	0.55*
7 +	1.10***	1.06	South	1.00	0.85*
Social Group			Residence		
ST			Rural	1	1
SC	2.21*	2.01*	Urban	1.06	1.01
OBC	-	2.62*	Illness (Days)		
Others	2.16*	2.56*	0–3	1	1
Education^a			4–7	1.02	0.83*
Illiterate			7+	0.91***	0.61*
Literate up to middle	0.96	0.97			
Above middle	1.07	1.10***			
Structure of House					
Kutcha					
Semi-pucca	1.04	1.24*			
Pseudo R2	0.0,325	0.0,429	Log likelihood	-14,470.83	-16,664.98
Sample (N)	28,659	30,406			

Notes: *p < 0.001; **p < 0.01; ***p < 0.05.

A similar pattern was observed for MPCE and private health care utilization. As expected, higher the levels of expenditure, higher are the likelihood of using private source of outpatient treatment in 2004. Economic inequalities in accessing private health services have considerably increased. Similar results emerge when economic status of individuals is categorized as very poor, moderately poor and non-poor (see Appendix Table A1).

Significant regional disparity is found in the choice of outpatient care services with northern region having the least likelihood (OR = 0.53, $p < 0.001$) of accessing outpatient care services from a private provider, followed by south (OR = 0.83, $p < 0.001$). Regions such as west and north-central are more likely to utilize private source of care than the eastern region. No significant rural–urban differences are found in using private source of care. Severity of illness is found to be a significant predictor for the choice of outpatient care. If the ailment prolongs and one becomes bedridden, the likelihood of using private source of care decreases. This could be due to the fact that longer duration of illness is often associated with heightened severity of diseases and thus, people are compelled to consult government doctors if the duration of disease increases.

Pattern of Inpatient Care Utilization

Trends in Public and Private Choices of Inpatient Care Utilization at State and National Level

The analysis of the utilization of inpatient care services indicates an increasing use of inpatient treatment through the private sector (Figure 8). The proportion of population using care outside the public sector increased during the period 1995–96 to 2004. Among the inpatient care users, 59 per cent resorted to a

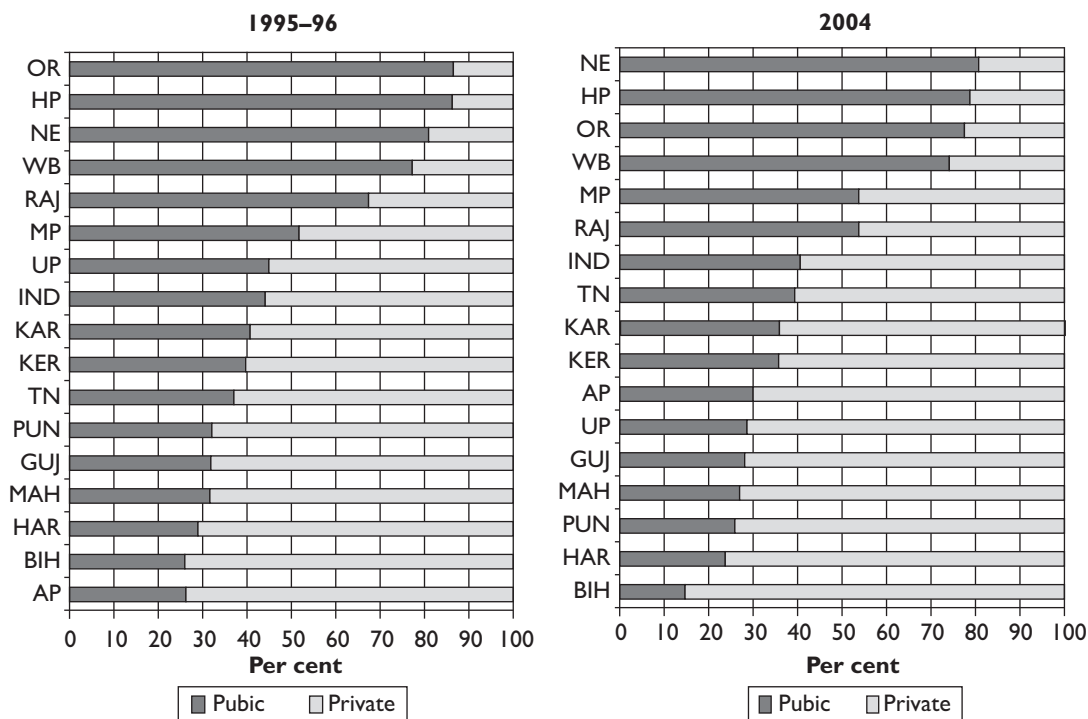


Figure 8. Percentage Distribution of Inpatient Treatment between Public and Private Sector in India and Selected States, 1995–96 and 2004

private source of care in 2004 compared to 56 per cent in 1995–96 suggesting an increase of 3 percentage points in utilization from private source of care. In terms of inpatient bed days, 52 per cent used public sector in 2004 at the all-India level.

Unlike outpatient care, the use of public health care services is significantly higher for many states for both the periods. Majority of the population (more than 80 per cent) depended on public sector for hospitalization in Orissa (86 per cent), Himachal Pradesh (86 per cent) and the north-eastern states (81 per cent) in 1995–96. On the other hand, the use of private source of care was more than 70 per cent in Andhra Pradesh, Bihar, Haryana and Maharashtra in 1995–96. The results indicate a gradual shift towards private health care sector for inpatient treatment as majority of the states including Uttar Pradesh (45 per cent – 28 per cent); Orissa and Himachal Pradesh (from 86 per cent in 1995–96 to 78 per cent in 2004) exhibited a declining reliance on public sector for hospitalization. However, a handful of states, viz., Andhra Pradesh, Tamil Nadu and Madhya Pradesh witnessed marginal increase in utilization of inpatient treatment from public sector.

Trends in State and National Level Public and Private Choices for Inpatient Care by Poor and Non-poor People

Figures 9 and 10 show hospitalization in the private and public sectors by expenditure quintile for India for both periods of 1995–96 and 2004. Although public and private hospitalizations increase with income, the private sector has expanded more than the public sector. Another important result is the strong reliance of the poor on public hospitals as measured by the share of public sector for hospitalization. A total of

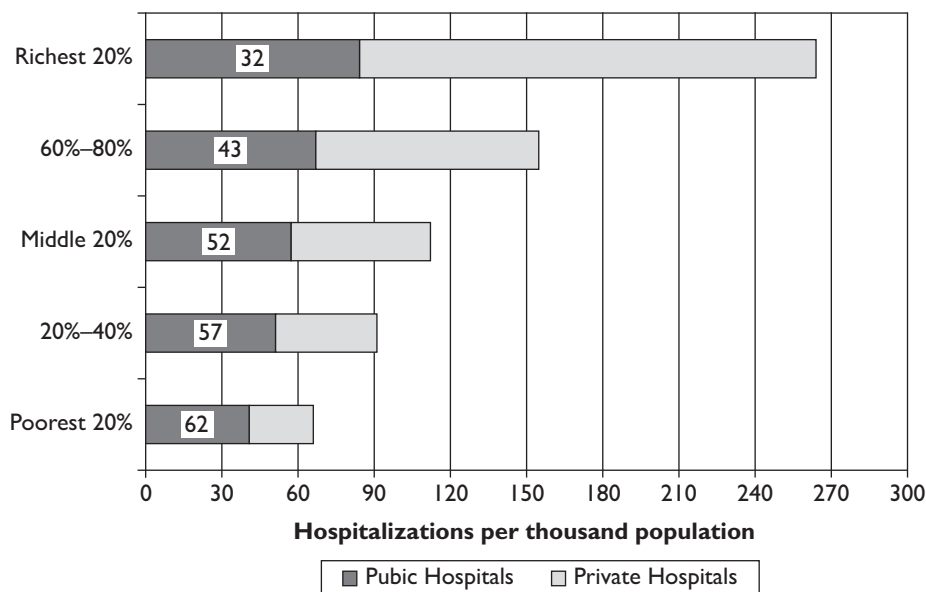


Figure 9. Public and Private Sector Hospitalization Rates by Expenditure Quintile, India, 1995–96

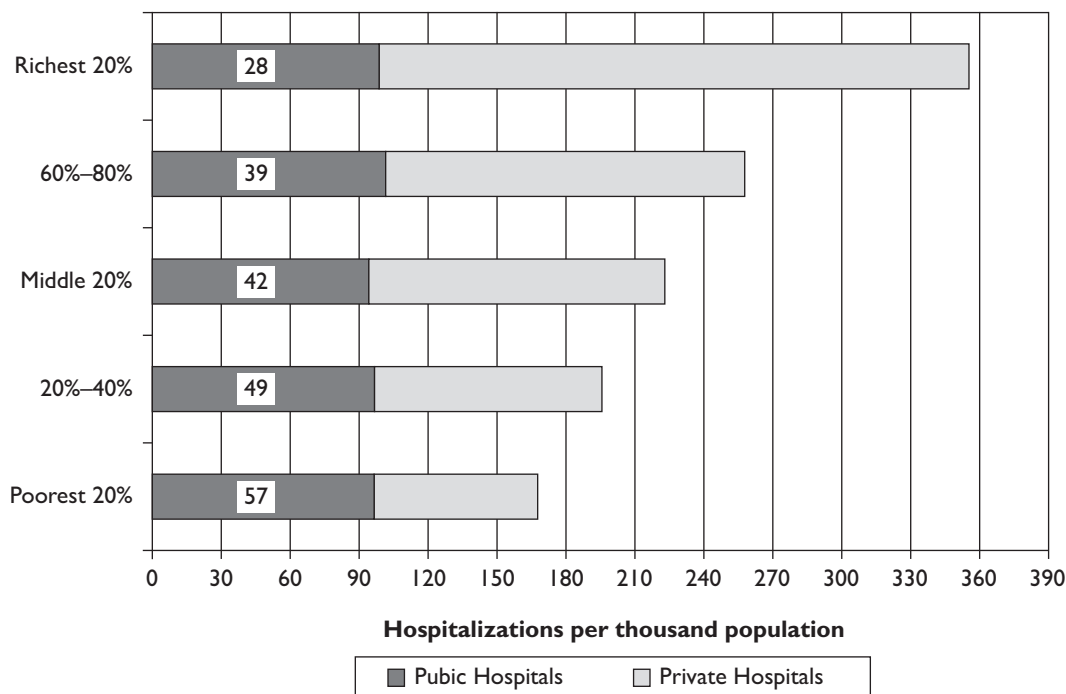


Figure 10. Public and Private Sector Hospitalization Rates by Expenditure Quintile, India, 2004

57 per cent of the hospitalized persons in the poorest quintiles received treatment from public hospitals while the richest quintile used public hospitals only 28 per cent of the time in 2004. However, the utilization from private source of care has increased across expenditure quintiles over the study period. Even the people from poorest quintile are increasingly relying on private source of care for inpatient treatment.

However, the states differ a great deal in the extent to which their poor and non-poor populations use public and private services (Figures 11 and 12). Among the poor hospitalized persons, the proportion utilizing services from the public sector varied from 12 per cent (Bihar) to 90 per cent (West Bengal) in 2004. Apart from West Bengal, three other states/regions, viz., Orissa (80 per cent), the north-east (82 per cent) and Himachal Pradesh (87 per cent), demonstrated relatively higher inpatient care utilization from public sector. Bihar, Haryana, Uttar Pradesh and Maharashtra showed a high degree of reliance on private sector in 2004. Similar pattern is observed for non-poor hospitalized persons. In 2004, the proportion utilizing public sector for inpatient treatment was highest in the north-east (80 per cent), Himachal Pradesh (78 per cent) and Orissa (75 per cent). However, people of majority of the states irrespective of their economic status showed greater inclination towards private sector for hospitalization over the period 1995–96 to 2004. Even the poor of the poorer states like Bihar, Uttar Pradesh and Rajasthan showed significant decline in the utilization of inpatient care from public sector.

In contrast, only the north-eastern states appear to have experienced increase in the proportion of poor people using hospitalized treatment from public sector (from 65 to 82 per cent during the period 1995–96 to 2004).

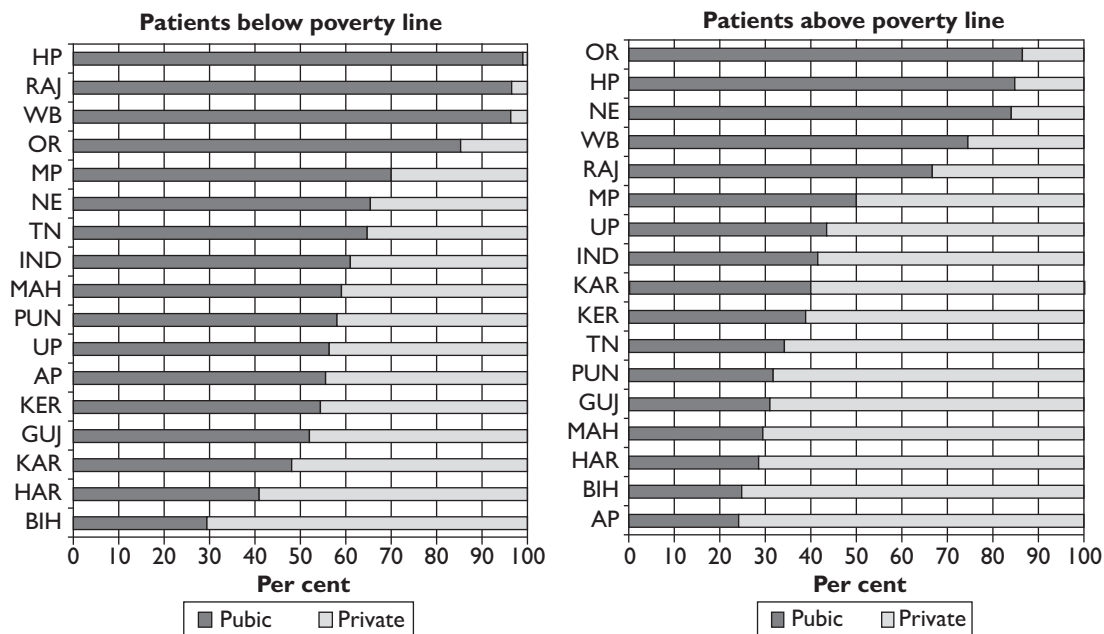


Figure 11. Percentage Distribution of Inpatient Treatment by Economic Status of Patients between Public and Private Sector for Population of India and Selected States, 1995-96

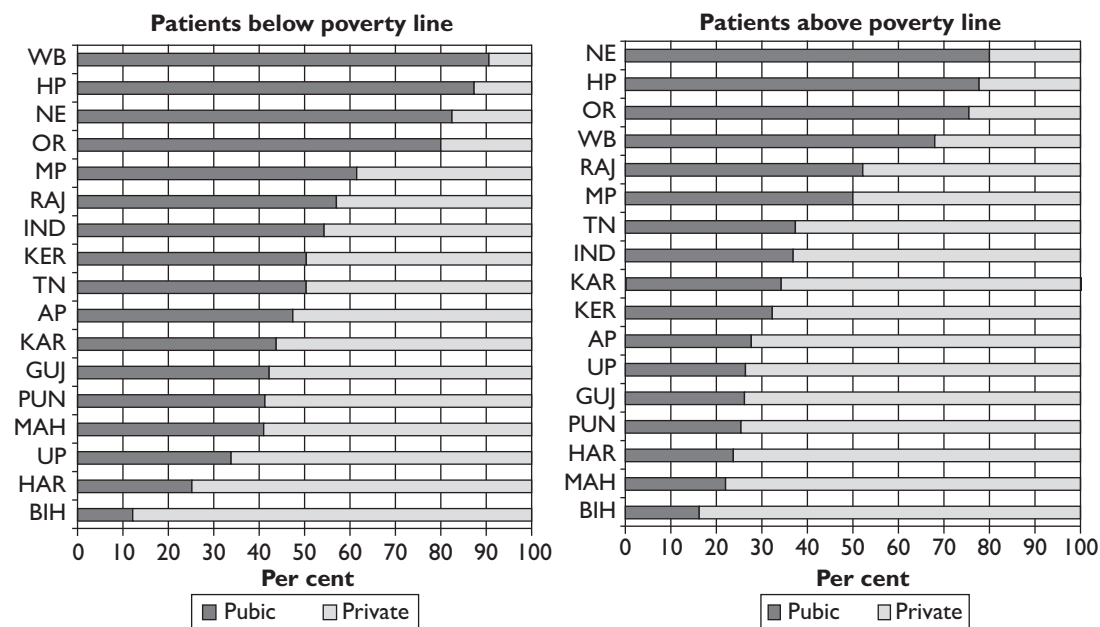


Figure 12. Percentage Distribution of Inpatient Treatment by Economic Status of Patients between Public and Private Sector for Population of India and Selected States, 2004

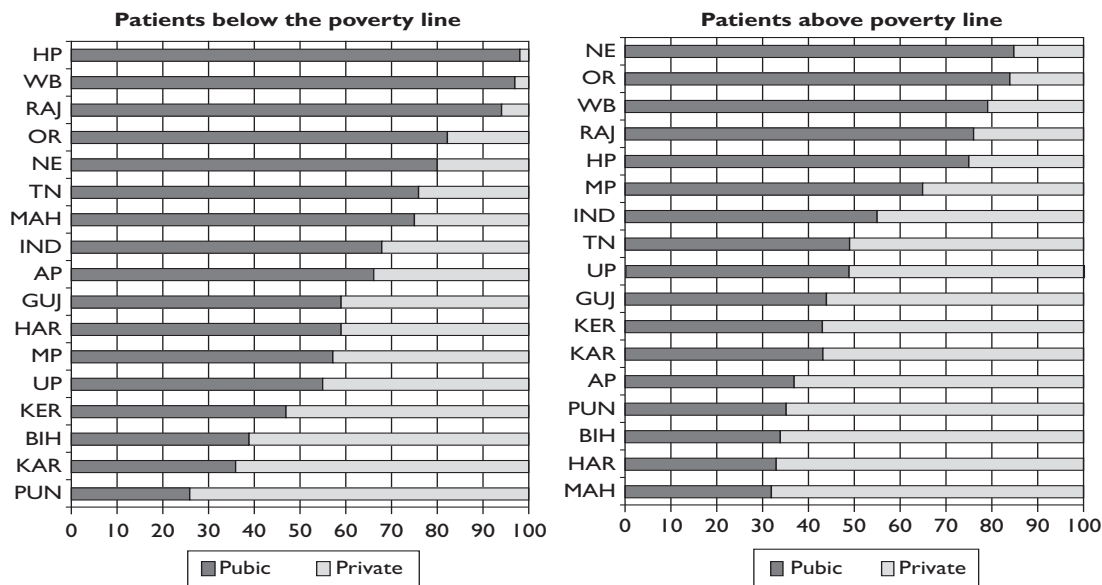


Figure 13. Percentage of Inpatient Bed Days in the Public and Private Sector for those below and above the Poverty Line in India and Selected States, 1995–96

Trends in State and National Level Public and Private Share of Inpatient Bed Days by Poor and Non-poor People

Another important way for examining the changes in state variations in the choices for inpatient care for those below and above poverty lines is to look at the percentage distribution of inpatient bed days between public and private sectors during the period 1995–96 to 2004. Figure 14 shows the large variations ranging from high public sector reliance of the poor people in West Bengal (97 per cent), Himachal Pradesh and the north-eastern states (92 per cent), to a low level of public sector utilization in Bihar (28 per cent), Haryana (35 per cent) and Uttar Pradesh (37 per cent) in 2004. A number of states exhibited significant decline in utilization rates from public sector over the study period: Rajasthan (25 per cent), Uttar Pradesh (18 per cent), Bihar (11 per cent) and Tamil Nadu (10 per cent).

It is particularly worrying to note that there is an increase in the utilization of inpatient bed days in the public sector by the non-poor (33 to 44 per cent in Haryana and 75 to 81 per cent in Himachal Pradesh) accompanying a decline in the utilization by the poor (59 to 35 per cent in Haryana and 98 to 92 per cent in Himachal Pradesh) in two major states over the study period. Another important result is that there was a disproportionate decline in the utilization of inpatient bed days in the public sector among the poor compared to their non-poor counterparts. For example, in Maharashtra, the percentage of inpatient bed days has declined from 75 to 52 among the poor during the study period. In contrast, the non-poor experienced a decline of only three percentage points over the same period.

It could be seen that though the analysis of inpatient bed days largely confirm the pattern found in case of choice of inpatient care provider for the poor and non-poor people, it slightly differ with the order of the states arranged from highest to lowest rate of utilization from public sector.

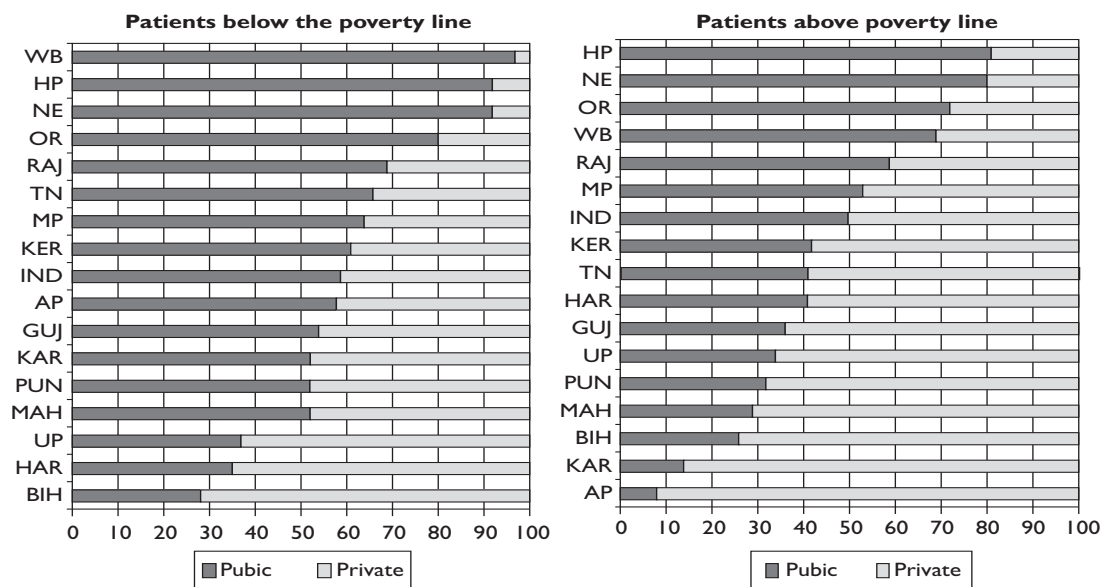


Figure 14. Percentage of Inpatient Bed Days in the Public and Private Sector for those below and above the Poverty Line in India and Selected States, 2004

Socio-economic Differentials in the Choice of Inpatient Care Utilization

Table 7 describes the associations of various background variables with utilization of private health care services for periods of 1995–96 and 2004. The results of the logistic modelling of choice of a private source of care are given in Table 8. Although age showed a significant effect for all ranges in 1995–96, it remained significant only for the first category; children aged below 2 years were 63 per cent more likely to get treated from private source of care compared to persons aged 18–59 years. It seems females had advantage over males in utilizing private source of care in 2004. For both the periods, it was found that the odds of getting treated from private source of care were higher amongst the currently married persons than the never married persons. Households having seven or more members were more likely to use private source of care. The OBC and others were having greater likelihood of using private source of care than the SCs and STs.

It is notable that the degree of differences in utilization of inpatient services from private sector between social groups have widened during the study period. Although no systematic relationship could be found between education and the choice of private health provider, persons with more than middle level education were more likely to utilize private source of care than their illiterate counterparts. Results confirm that other SES variables have significant impact on the choice of private provider. Per capita monthly household consumption expenditure has a positive and statistically significant effect on the probability of choosing a private provider. The richest quintile has almost 1.7 times higher likelihood of using private source of care compared to the poorest quintile in 2004.

Similar pattern is found for the structure of house, as an economic status variable with the persons having pucca house 2.07 times more likely to get treated from private hospitals compared to the persons having kutchha house. Comparing the results of both the periods 1995–96 and 2004, it is clear

Table 7. Associations (Weighted) of Study Variables with Choice of Private Source of Health Care for Inpatient Treatment (Per cent)

Background Characteristics	1995–96	2004	Background Characteristics	1995–96	2004
Age			Household source		
Below 2 years old	67 ^a	71 ^a	Other source	57 ^a	60 ^a
2–17 years old	55 ^a	55 ^a	Casual labour	49 ^a	52 ^a
18–59 years old	55 ^a	59 ^a	Quintile		
60 years and older	59 ^a	61 ^a	Poorest	38 ^a	45 ^a
Sex			2nd quintile	42 ^a	51 ^a
Male	56	59 ^b	3rd quintile	52 ^a	57 ^a
Female	56	60 ^b	4th quintile	58 ^a	64 ^a
Marital status			Richest	69 ^a	72 ^a
Never married	55 ^a	58 ^a	Poverty status		
Currently married	57 ^a	60 ^a	Very poor	43 ^a	44 ^a
Divorced/separated	54 ^a	58 ^a	Moderately poor	37 ^a	49 ^a
Household size			Non-poor	58 ^a	63 ^a
< = 4	57	60 ^a	Region		
5–6	55	57 ^a	East	31 ^a	36 ^a
7+	56	61 ^a	West	68 ^a	72 ^a
Social Group			North-central	50 ^a	59 ^a
ST	35 ^a	42 ^a	North	58 ^a	63 ^a
SC	46 ^a	45 ^a	South	64 ^a	64 ^a
OBC	NA	64 ^a	Residence		
Others	60 ^a	64 ^a	Rural	55 ^a	58 ^a
Education^a			Urban	58 ^a	62 ^a
Illiterate	52 ^a	54 ^a	Illness (Days)		
Literate up to middle	55 ^a	56 ^a	0–3	60 ^a	63 ^a
> Middle or higher	66 ^a	71 ^a	4–7	57 ^a	60 ^a
Structure of House			8+	52 ^a	55 ^a
Pucca	63 ^a	67 ^a			
Semi-pucca	51 ^a	47 ^a			
Kutcha	42 ^a	38 ^a			
Sample (N)	22,361				29,036

Notes: ^aPearson's χ^2 statistics $P \leq 0.001$; ^bPearson's χ^2 statistics $P \leq 0.005$.

that income inequality, measured by MPCE, in choosing services from the private provider, has reduced over the study period. Similar results are obtained when economic status of individuals is categorized as very poor, moderately poor and non poor (see Appendix Table A2). However, there is a dramatic turnaround for the rural–urban differences in private inpatient care utilization. Unlike 1995–96, the urbanities are less likely to use private source of care compared to their rural counterparts.

Table 8. Choice of Private Provider for Inpatient Services, India, 1995–96 and 2004

Background Characteristics	1995	2004	Background Characteristics	1995	2004
Age			Pucca	1.52*	2.07*
Below 2 years old	1.85*	1.45*	Household source		
2–17 years old	1.15*	0.99	Other labour	1.37*	1.28*
18–59 years old	1	1	Casual labour	1	1
60 years and older	1.26*	1.02	Region		
Sex			East	1	1
Male			West	3.98*	3.55*
Female	1.05	1.11	North-central	1.78*	2.01*
Marital status			North	1.32*	1.03*
Never married		1	South	3.71*	2.60*
Currently married	1.32*	1.18**	Residence		
Divorced/separated	1.09	0.98	Rural	1	1
Household size			Urban	1.14*	0.84*
< = 4			Illness (Days)		
5–6	1.09***	1.03	0–3	1	1
7 +	1.40*	1.32*	4–7	0.85*	0.87*
Social Group			7+	0.64*	0.79*
ST		1	Quintile		
SC	1.72*	1.65*	Poorest	1	1
OBC	NA	2.41*	2nd quintile	1.28*	1.14
Others	2.00*	2.09*	3rd quintile	1.46*	1.22*
Education^a			4th quintile	1.91*	1.27*
Illiterate	1	1	Richest	2.88*	1.71*
Literate upto middle	0.96	0.95			
Above middle	1.25*	1.36*			
Structure of House					
Kutchia		1			
Semi-pucca	1.20*	1.22*			
Pseudo R2	0.114	0.0,992	–Log likelihood	13,796.98	17,928.71
Sample (N)	22,466				28,818

Notes: *p < 0.001; **p < 0.01; ***p < 0.05.

The utilization of inpatient care from private source varies significantly by regions with the western states (OR = 3.98 and 3.55) having the highest probability, followed by southern (OR = 3.71 and 2.60) and the north-central states (OR = 1.78 and 2.01). It seems that the regional inequalities have reduced over time. Results also suggest that as the duration of hospitalization increases, the odds of utilization from a private source of care decreases.

Discussion

In general, the level of public expenditure in health care is found to be closely related with the pattern of health care use, however, it does not fully explain the variation. For example, Punjab makes relatively higher amount of per capita public investment than any other state but the utilization of private health care is also quite high in this state. One of the plausible reasons could be the sharp decline in the number of government hospitals and beds over time. Also, being the economically most prosperous state, the people may prefer private care over public care because of quality concerns. This issue needs more research to understand the factors responsible for relatively higher utilization of private services in Punjab, despite higher public investment.

Another interesting observation is that states with better public health care infrastructure have a lower percentage treated in public hospitals; this is particularly true for Maharashtra, Karnataka and Kerala. In states like Orissa and Rajasthan where the health care infrastructure is not so developed, the percentage of inpatients getting treated in government hospitals is 78 and 53 per cent, respectively.

Trends in Outpatient Care Utilization

The results indicate that a vast majority of people (almost 80 per cent) in India use the private sector for outpatient care curative services, albeit a slight decline is noted over the two study periods. Although the NSS data (60th round) do not allow us to know the extent to which the outpatient care users are receiving treatment from qualified medical practitioners in the private health care market, a growing body of evidences points to the fact that in the absence of affordable medical care from qualified medical practitioners, poor and uneducated as well as people in rural areas mostly depend on semi-qualified and traditional providers for curative care services (Peters et al. 2002; Rohde and Viswanathan 1995). This has a serious implication on the overall health status of the people and suggests the need to regulate the private health care market to protect the users from undesirable health consequences.

Outpatient Care Utilization Pattern among the Poor and Non-poor

The utilization of private sector for outpatient services has become more inequitable across expenditure quintiles, favouring the rich at the national level during the period 1995–96 to 2004. There are also large inter-state variations in the choice between private and public provision for poor and non-poor people at the state level. The results indicate that Himachal Pradesh is the only state where the public outpatient services are well-targeted and fairly accessible to the poor people (84 per cent) than other states. Apart from Himachal Pradesh, public services constitute more than 50 per cent for the poor in Orissa and Rajasthan. On the other hand, an overwhelming proportion of the poorest in the poorer states of Bihar (92 per cent) and UP (86 per cent) utilized private sector suggesting a virtual breakdown of the public health system in these states. However, it is encouraging to note that the coverage of public services has improved, particularly for the poor in Himachal Pradesh, Karnataka, Kerala and Tamil Nadu over the study period.

Reasons for Not Accessing Public Sector for Outpatient Care

Almost half of those who obtained outpatient services from private source in 2004 stated poor quality of services in public facilities was the reason for not choosing public care and this proportion has increased over the study period. Apart from this, a relatively higher proportion of people of the poorest, 2nd and 3rd quintile complained about the non-availability of public facilities while the people of the richest quintile seemed to be more concerned about the quality of services in the public sector. This implies that a sizeable proportion of the poor were forced to visit private provider due to non-availability of public facilities: This suggests the need for the public health care system to be responsive to the needs of the poor by ensuring availability of quality services in the public facilities. This would encourage the poor to seek treatment from the public sector and thereby, help to reduce the severe economic burden on them.

Socio-economic Differentials in Outpatient Care Utilization

The results of the multivariate analysis suggest that the gap in access to private provider for outpatient care between poor and non-poor, highly educated and uneducated and scheduled tribes and other social groups have broadened over the study period. This implies that the marginalized sections, especially the poorest are increasingly relying on the public sector, though it is perceived to be of poor quality. It may be related to the increasing cost of the private health care services in India (Bhat 1999; Purohit 2001), which may have acted as a hindrance for the socio-economically weaker sections, leading them to seek services at the public facilities. If enhancing capability is considered as widening the choice basket of health providers for the under-privileged and marginalized (Sen et al., 2002), a lack thereof means erosion of capability. This underscores the need for targeted policies to meet the health care need of the people, either by improving the services of the existing public health care network or providing social health protection to this vulnerable population.

Trends in Inpatient Care Utilization

Unlike outpatient care, the results show a trend of declining use of public health facilities for inpatient care. In other words, proportion of people using the private sector for hospitalization has increased over the study period. At least three out of five hospitalized persons sought care from private sector at the national level in 2004. However, states differ a great deal in the extent to which their populations use private services. Although the results indicate a gradual shift towards private sector for most of the states, the reliance on public sector for hospitalization was relatively higher in West Bengal, Orissa, Himachal Pradesh and the north-eastern states.

Inpatient Care Utilization Pattern among the Poor and Non-poor

At the national level, the poorer the individuals, the more likely it is that they will use public sector for inpatient treatment. On the contrary, the rich people are more likely to use the inpatient services of private sector that offer apparently better quality of services. The poor are also much less likely to be hospitalized than do the rich people. A comparison of the health care utilization pattern across expenditure quintiles for

1995–96 and 2004 indicates that even the poor people are switching to private sector. The increased use of private health facilities for inpatient care may be related to the failure of the public institutions to meet the growing patient demand and the rapid expansion of the private sector over the study period.

There are considerable state-level variations in the use of public and private sector for both poor and non-poor. Interestingly, both poor and non-poor showed high degree of reliance on public sector in West Bengal, Himachal Pradesh, the north-eastern states, Orissa and Rajasthan. If catering the patient's need is considered as a yard-stick for measuring the health system's performance, the public sector of these states clearly stand out, from others. On the other hand, the public sector has failed to provide adequate inpatient services to the people, especially the poor in Bihar, Haryana, Uttar Pradesh and Maharashtra. However, there are more reasons to worry as the comparative analysis of 1995–96 and 2004 show that the public sector is fast losing out to private sector even in the above-mentioned best performing states excluding West Bengal and the north-east. Another important result is that the non-poor heavily utilize the inpatient services from public sector in many of these states. This indicates the need for better targeting of the publicly funded inpatient care.

Socio-economic Differentials in Inpatient Care Utilization

We also tried to assess the factors associated with choice of private provider for inpatient care utilization. It is found that the tendency of utilizing private care is significantly higher among the children below two years age, females, currently married and individuals with post-middle level education and those from higher social class and non-casual worker households. Although the richer people have higher probability of seeking inpatient care from private providers, the expenditure inequities seemed to have reduced over time. However, the analysis reveals that while the social differences have widened, regional inequities in the choice of private provider have reduced over the study period.

Appendix

Table A1. Choice of Private Provider for Outpatient Services, India, 2004

Background Characteristics	1995 (n = 28,659)	2004 (n = 30,406)	Background Characteristics	1995 (n = 28,659)	2004 (n = 30,406)
Age			Pucca	1.34*	1.58*
Below 2 years old	1.43*	1.59*	Household source		
2–17 years old	1.14***	1.08	Other labour	1.31*	1.31*
18–59 years old	1	1	Casual labour	1	1
60 years and older	0.99	1.07	Poverty status		
Sex			Non-poor	1.30*	1.26*
Male			Moderately poor	1.26***	1.04
Female	1.07***	1.11*	Very poor	1	1

(Table A1 Continued)

(Table A1 Continued)

Background Characteristics	1995 (n = 28,659)	2004 (n = 30,406)	Background Characteristics	1995 (n = 28,659)	2004 (n = 30,406)
Marital status			Region		
Never married			East		
Currently married	1.06	0.94	West	1.70*	1.67*
Divorced/separated	0.95	0.91	North-central	2.00*	1.19*
Household size			North	0.93	0.56*
< = 4			South	1.04	0.85*
5–6	0.96	1.01	Residence		
7+	1.06	1.06	Rural	1	1
Social Group			Urban	1.02	0.96
ST			Illness (Days)		
SC	2.17*	1.96*	0–3	1	1
OBC	-	2.57*	4–7	1.03	0.83*
Others	2.16*	2.53*	7+	0.95	0.62*
Education^a					
Illiterate					
Literate up to middle	0.99	0.99			
Above middle	1.12***	1.16**			
Structure of House					
Kutcha					
Semi-pucca	1.04	1.24*			
Pseudo R2	0.0,318	0.0,424	Log likelihood	-14,480.11	-16,674.11

Notes: *p < 0.001; **p < 0.01; ***p < 0.05.

Table A2. Choice of Private Provider for Inpatient Services, India, 1995–96 and 2004

Background Characteristics	1995 (n = 22,466)	2004 (n = 28,818)	Background Characteristics	1995 (n = 22,466)	2004 (n = 28,818)
Age			Pucca	1.70*	2.19*
Below 2 years old	1.74*	1.42*	Household source		
2–17 years old	1.14***	0.99	Other labour	1.43*	1.30*
18–59 years old	1	1	Casual labour	1	1
60 years and older	1.27*	1.04	Poverty status		
Sex			Non-poor	2.19*	1.16*
Male	1	1	Moderately poor	1.40*	0.95
Female	1.07***	1.13*	Very poor	1	1

(Table A2 Continued)

(Table A2 Continued)

Background Characteristics	1995 (n = 22,466)	2004 (n = 28,818)	Background Characteristics	1995 (n = 22,466)	2004 (n = 28,818)
Marital status			Region		
Never married	1	1	East	1	1
Currently married	1.36*	1.17**	West	4.08*	3.57*
Divorced/separated	1.13	0.98	North-central	1.82*	2.00*
Household size			North	1.53*	1.10*
<= 4			South	3.57*	2.57*
5-6	1.02	1.02	Residence		
7+	1.21*	1.25*	Rural		
Social Group			Urban	0.95	0.79*
ST	1	1	Illness (Days)		
SC	1.61*	1.58*	0-3	1	1
OBC	-	2.35*	4-7	0.87*	0.87*
Others	2.02*	2.09*	7+	0.69*	0.80*
Education^a					
Illiterate	1	1			
Literate up to middle	1.04	0.99			
Above middle	1.50*	1.50*			
Structure of House					
Kutchha		1			
Semi-pucca	1.23*	1.22*			
Pseudo R2	0.101	0.0956			
Log likelihood	-13,988.647	-17,999.694			

Notes: *p < 0.001; **p < 0.01; ***p < 0.05.

Note

1. The poverty line for 2004 represents the official poverty line given by Planning Commission of India separately for states and regions (rural and urban areas) for the year 2004-05. However, the growth rate of the price changes is calculated during the period 1987-88 to 1993-94 and this has been used to project the poverty line for the year 1995-96 based on the official poverty line for the year 1993-94.

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