Inequality in consumption of Reproductive Health Services in India: A Longitudinal Assessment

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Abstract: In India, there is dearth of longitudinal studies to find out reproductive health service consumption. In the given context, this study is an attempt to understand and establish the relationship between consumption status of women measured longitudinally for reproductive health services with socio-economic and other contextual variables. It tries to relate this with demographic transition by studying three Indian States at different level of demographic transition viz. Bihar, Jharkhand, and Maharashtra. The research was mainly secondary in nature. It included analysis of data collected by International Institute for Population Sciences (IIPS) and The Johns Hopkins University (JHU) as a follow up study to the 1998-1999 National Family Health Survey (NFHS-2). Sample consisted of 3666 women. Analysis is based on composite index, cross tabulation and logistic regression analysis. The findings on contextual differentials and determinants clearly reflect upon the relationship between socio-economic inequality, regional imbalances and consumption of reproductive health facilities.

Key Words: Health Inequality, longitudinal study, India

INEQUALITY IN CONSUMPTION OF HEALTH SERVICES IN INDIA: A LONGITUDINAL ASSESSMENT

In India, there have been few attempts to evaluate the performance of health service providers through longitudinal studies. A study done by Sinha et al. in 2002 shows that though in 2002 there is low level of home visit by health workers in the Indian states of Bihar, Maharashtra and Tamil Nadu, the situation has improved if it is compared with the year 1998. The study is based upon a follow-up survey. The study concludes that women who receive regular home visits by the health workers are more likely to utilize the health services. In this manner, the study argues in favour of effectiveness of health programme efforts made by public service providers. In longitudinal context, a study done by Roy et al., in 2003 has shown the role of psychological intentions in explaining the contraceptive demand. Internationally, though many longitudinal studies have been done in the area of public health (Barnes-Josiah et al., 1998; Bersamin et al., 2008; Kincaid, 2000; Leonard, 2005; Mindes et al., 2003; Tain, 2003). However, seemingly, there is lack of longitudinal study dealing with the issue of health service consumption in the context of demographic transition.

State wise differentials in terms of demographic indicators are well established and reflect upon the divide and regional imbalances within India. To highlight it Bose (1996) has used the phrase "north-south demographic divide". In India, health care divide suggests inequalities in relation to region, income and caste. It is argued that strategies to target such concern should emerge from understanding the particular distinctive 'logics' of local systems which is often embedded in socio-political and cultural specificities of the region (Reddy, 2008).

A study done by Jejeebhoy and Sathar in 2001 highlights the importance of political state. The study shows very clearly that state or region is a stronger predictor of women autonomy than religion. Socio-political milieu is emphasized here, which is likely to play an important role in service consumption . Needless to say here that there is critical importance of human factor and culture in the entire health system. Roy et al in a book on population and development in Bihar (Sinha & Sinha, 1994), clearly highlight the role of health personnel (human factor) and show a positive relationship between performance indicators and health personnel. In the same book, Mishra (1994) highlights the negative role of caste in health services consumption .

Research Objective

This study is an attempt to understand and establish the relationship between consumption status of women (no consumption , discontinuous consumption , initiation during follow up, continuous consumption) for reproductive health services and facility type used (public, private, both public and private) with background variables (socio economic and demographic) and programme and supply variables which together constitute the contextual variables. The context is described through these variables : education level of women, age of women, religion of women, ethnicity of women, standard of living of women, health workers' visit to women, level of autonomy of women, media exposure, states women belong to and proximity to health facility.

Research Design

The research was mainly secondary in nature. It included analysis of data collected by International Institute for Population Sciences (IIPS) and The Johns Hopkins University (JHU) as a follow up study to the 1998-1999 National Family Health Survey (NFHS-2).

Follow up survey was done in the states of Tamil Nadu, Maharashtra and erstwhile unified Bihar (Now Bihar and Jharkhand). In 2002-03, these four states were selected to capture the variations in socio-economic and demographic conditions. Among four states, socio-demographically, Tamil Nadu is regarded ahead of Maharashtra, Bihar and Jharkhand. In economic sense, Maharashtra is regarded as the most developed state among these. Both socio-economic as well as demographic indicators are at lower levels for Bihar and Jharkhand. For the purpose of analysis, Bihar and Jharkhand have been treated as unified Bihar. At baseline period (NFHS-2) it was unified Bihar, however, at follow-up it was Bihar and Jharkhand. In order to maintain uniformity at both time periods, it has been taken as Bihar only. The secondary research tried to meet the first two objectives as mentioned in the research objective section. Primarily it was a comparative analysis of quality of health care as being provided by Public and Private sectors. Sample consisted of 7785 all ever-married, usual resident, rural women of age 15-39 years in 1998 at the time of baseline study. The total number was 4626 for undivided Bihar, 1485 for Maharashtra and 1674 for Tamil Nadu. These women were followed up in 2002-3. The response rate for follow up was 86.4 percent. In effect, the analysis for this study is based upon data collected for 6303 currently married women. It consisted of 3666 women from unified Bihar (2843 from Bihar, 823 from Jharkhand), 1117 from Maharashtra and 1520 for Tamil Nadu.

Data Analysis

List of variables and their operationalization

Variables were broadly categorized into background variables, programme and supply variables, quality of care variables and consumption variables. Background variables and programme & supply variables together constitute contextual variables.

Background variables included education level of women (measured at four levels – illiterate, literate but less than middle completed, middle school complete, high school complete and above.), age of women (put into two categories – up to 30 years of age, more than 30 years of age), religion (categorized into Hindu and non-Hindu), ethnicity (categorized into women belonging to scheduled caste/scheduled tribe (SC/ST) and others (castes other than SC/ST), standard of living index[a] (SLI-categorized into women with low SLI , women with medium standard living index, women with high SLI), women autonomy index[b] (categorized into women with low autonomy, women with medium autonomy, women with high autonomy) media exposure (categorized into women with low media exposure, women with medium media exposure, women with high media exposure), state (measured in terms of rural women belonging to Indian states of; Bihar, Maharashtra and Tamil Nadu).

Programme and Supply variables included visit by health workers (measured in terms of visit of any health workers in the last 12 months (male or female) to women for health purpose), proximity to health facility (categorized into health facility available in the village, health facility available outside the village but up to 3 kilometre range, health facility available outside the village but at the distance of more than 3 km).

[a] As defined in NFHS (borrowed from NFHS II).
[b] Index computed-discussed later in this paper.

Consumption variables included status of consumption for any health purpose (at four levels – no consumption , discontinuous consumption , initiation during follow up and continuous consumption) measured longitudinally at follow-up survey from the baseline (NFHS-2) time period. The facility type used is measured at three levels - public health facility, private health facility, and both public & private health facility. The levels of facility type used are mutually exclusive categories.

Consumption of health facilities for any health purpose refers to consumption of health facilities for family planning advice or other family planning services or antenatal care or delivery care or post partum care or treatment for self and treatment for sick child in the last one year.

No consumption means that woman has not utilized any type of the health facilities (public or private or both) for any health purpose both at the baseline (1998) and follow-up (2002) reference period[c].

Discontinuous consumption means that woman utilized any type of the health facilities (public or private or both) for any health purpose in the reference period of 1998 but not of 2002.

Initiation during follow up means that woman did not utilize any type of the health facilities (public or private or both) for any health purpose in the reference period of 1998 but started utilizing in the reference period of 2002.

Continuous consumption means that woman has utilized any or more of the health facilities (public or private or both public and private) for health purpose in the reference period of both 1998 and 2002.

Indices Construction

[c] Reference period is defined here as the last one year preceding the survey.

In this study following Indices of women autonomy were constructed. These indices have their theoretical roots in the work of Jejeebhoy and Sathar (2001).

To construct women's **mobility index**, the following questions were taken: Do you need permission to: Go to the market? Visit relatives or friends inside the village? Visit relatives or friends outside the village? Take sick child to health centres? The responses to the above questions were captured on the three categories of need permission- yes or no, or not allowed. For the purpose of mobility index construction, 'yes, need permission' and 'not allowed' categories were merged and 'no permission needed' has been kept separately. 'Yes, need permission' and 'not allowed' categories were merged and given the code of '0' and 'no permission needed' has been given the code of '1'.

To construct women's **decision making index**, the following questions were taken: Who makes the following decision in your household? What items to cook? Obtaining health care for yourself? Purchasing jewellery or other major household items? Your going and staying with parents or siblings? The responses to these questions were captured on 5 points scale: Respondent (Self), Husband, Jointly with husband, Others in Household, Jointly with others in household. The categories of respondent (Self), Jointly with husband and jointly with others in household have been merged and assigned the code of 1. Husband and others in household were merged and assigned the code of 0. There was another question in status of women section: Do you need permission to purchase the following? Household items? Clothing items? A piece of jewellery? A gift for a relative? Medicine? The responses were captured as yes=1 and no=2. Those were recoded as No=1 and yes=0 to create uniformity in scale construction.

To construct **access to economic resources index**, the following question has been used in this study. Who manages the bank account? Responses were coded into-Respondent (Self), Husband, Jointly with husband, Others in Household, Jointly with others in household. The categories of respondent (Self), jointly with husband and jointly with others in household have been merged and assigned the code of 1. Husband and others in household were merged and assigned the code of 0.One more item has been used to construct access to economic resources index: Are you allowed to have some money set aside that you can use as you wish? Access to economic resources is combination of bank account management and freedom to put some money aside.

To construct **freedom index**, two items have been taken. The first item indicates attitudinal justification of domestic violence: Sometimes a wife can do things that bother her husband. Please tell me if you think that a husband is justified in beating his wife in following situation: If she is unfaithful. Responses were captured on five points agreement scale. Disagreement (disagree or strongly disagree) has been taken as attitudinal freedom from domestic violence and coded as 1. Other categories are merged and taken as 0.The second item indicates the physical violence. The question asked was: Thinking about your own marriage, has your husband ever: Pushed you, pulled you, or held you down? The responses were captured into yes and no. For the purpose of index construction, these have been recoded as yes =0 and no =1. Freedom index is combination of attitudinal freedom from domestic violence and real freedom from violence.

Women Autonomy index is unweighted composite index of women's mobility index, decision making index, access to economic resources index and freedom index.

FINDINGS

Consumption of health facilities for any health purpose: Longitudinal Assessment

Results in Table I indicate that at combined states level, the chances of consumption are higher in the middle school completed group, among Hindu and non SC/ST ethnic group, low SLI, women visited by health workers, women with medium and high women autonomy, facilities available in the villages, in the states of Maharashtra and Tamil Nadu.

Findings from cross tabulation (Table Ia) shows that in Bihar, level of 'no consumption ' for health facilities is high across the categories but to lesser extent among illiterate, women in high SLI group and women belonging to castes other than SC/ST. Relatively, higher level of continuous consumption is observed among literate, women in high SLI group, women with high media exposure and women having access to health facilities in their village.

Findings from cross tabulation (Table Ib) shows that in Maharashtra, continuous consumption of health facilities for any health purpose is higher among literate women, women of age up to 30 years, women visited by health workers, women with high autonomy and with high media exposure.

In Tamil Nadu, there is high level of continuous consumption of health facilities for any health purpose among all categories of women. The level of consumption is in the range of 65-75 percent. 15-20 percent of women have started utilizing health facilities

during follow up period. The level of no consumption is very low, less than 5 percent. (Table Ic).

From the findings it is clear that problem of no consumption is significantly present only in the state of Bihar, 38.9 percent among women in the state of Bihar (Table1). In other states percentages are very low, 9.1 percent in Maharashtra and 3.4 percent in Tamil Nadu. So consumption per se is not an issue except in Bihar. Both Bihar and Maharashtra have made significant progress during follow up period. Among women in these states, 30.5 percent have started utilizing it during follow-up period in Bihar and 25.2 percent in Maharashtra (Table 1.). The percentages of no consumption are relatively higher for marginalized and underserved population (illiterate, low SLI, low women autonomy, SC/ST or in areas where the health facilities are not present). The problem of marginalization and underserved population is more observed in Bihar. It seems that the states of Maharashtra and Tamil Nadu, due to historical reasons in terms of culture, political climate and programme (governance), the consumption level has gone up.

Determinants of consumption of health facilities for any health purpose: Longitudinal Assessment

In the logistic regression analysis, dependent variable is consumption status. Consumption status has two categories, namely; no consumption /discontinuous Consumption and initiation during follow up/continuous consumption . For the purpose of analysis, the categories of no consumption and discontinuous consumption have been merged to form a single category and been given value of '0'. Similarly categories of initiation during follow up and continuous consumption have been merged and given value of '1'. The predictors are education level of women, age of women, religion of

women, ethnicity of women, standard of living of women, health workers' visit to women, level of autonomy of women, media exposure, states women belong to and proximity to health facility. Table1i presents the odd ratios from 4 sets of regression analysis, one done at the combined states level (all), and other three; done for Bihar, Maharashtra and Tamil Nadu separately.

Logistic regression analysis (Table Ii) indicates that at combined states level, the chances of consumption (initiation during follow up/continuous consumption) are higher in the literate group, less than 30 years, among Hindu, women visited by health workers, women with medium and high women autonomy, facilities available in less than 3 km range, in the states of Maharashtra and Tamil Nadu. These findings indicate that the higher the level of health workers' visit to women, the higher will be the consumption for health services. This emphasizes the impact of performance of health workers on consumption of health services. At the combined states level, women in low SLI group have higher likelihood of initiation during follow up/continuous consumption than no consumption /discontinuous consumption . It is explained by the fact that women in higher SLI group have higher proportion of continuous as well as discontinuous consumption .

Logistic regression analysis (Table Ii) indicates that in Bihar, caste and proximity to health facility are only two factors which emerge as the significant determinants. Proximity to health facility (presence of a health facility in 3 km range) enhances the likelihood of consumption in Bihar. Women in SC/ST group have higher likelihood of initiation during follow up/continuous consumption . It is explained by the fact that

women in other castes have higher level of continuous as well as discontinuous consumption .

Logistic regression analysis (Table Ii) indicates that in Maharashtra, literate women, women belonging to caste other than SC/ST, women visited by health workers, women with higher autonomy and women with higher media exposure have higher chances of consumption (initiation during follow up /continuous consumption) .

Finding for Maharashtra indicate that the higher the level of women autonomy within a state, the higher will be consumption level for health services.

Among the states being studied here, Maharashtra is the only state where women autonomy has emerged as the significant determinant of consumption . So, the strong relationship between women autonomy and consumption is predicted only in the states of Maharashtra. Findings seem to be suggesting that when consumption level is low like in the state of Bihar, variables like infrastructure (presence of a health facility in 3 km range) has more important role to play. On the contrary, when consumption level is high across the categories like in the state of Tamil Nadu, women with low autonomy also indicate high level of consumption . However, in a state like Maharashtra, which is considered in between Bihar and Tamil Nadu, in terms of demographic transition and consumption of health facilities; women autonomy acts as an important predictor of consumption .

Logistic regression analysis (TableIi) indicates that in Tamil Nadu, women belonging to caste other than SC/ST, women visited by health workers and women with higher media exposure have higher chances of consumption .

So, the findings on contextual differentials and determinants clearly reflect upon the relationship between socio-economic inequality, regional imbalances and consumption of health facilities. However, it has to be explored further that what are the factors that lie beneath this relationship.

Consumption of public-private health facilities for any health purpose

In this section, the results of cross tabulation have been discussed. The section highlights the findings observed first at all combined states level and then at the level of individual states. Results indicate that at combined states level; level of consumption for private health facilities in comparison with public health facilities is higher among literate, women with medium & high SLI and women not receiving visits from health workers. Consumption for private health facilities is also higher for women utilizing private health facilities in 1998, in Maharashtra with reference to Bihar and having proximity to health facilities in 3 km range but not within village.

Level of consumption for 'both public and private' health facilities in comparison with public health facilities is higher among younger women and women with low media exposure. It is also higher for women utilizing private health facilities in 1998 and in Maharashtra and Tamil Nadu.

Level of consumption for 'both public and private' health facilities in comparison with private health facilities is higher among younger women, SC/ST, women with low SLI and among women receiving visits from health workers. It is also higher for women utilizing public health facilities in 1998, in Maharashtra and Tamil Nadu.

Results indicate that at all states combined level; level of consumption for public health facilities is higher among women with low standard of living index than women with medium and high standard of living index. Converse is observed for private health facilities. The level of consumption for private health facilities is higher among women with high standard of living index than women with low and medium standard of living index.

In Bihar, women in more than 30 years age group, women belonging to caste other than SC/ST, women with higher autonomy, women using either public or private health facilities in 1998 have higher chances of utilizing private health facilities in 2002 than public health facilities. Women with higher autonomy have higher chances of utilizing 'both public and private' health facilities than only public health facilities. Younger women, SC/ST women, women with low SLI and low women autonomy have higher chances of utilizing 'both public and private' health facilities than only private health facilities.

I. There is higher consumption of only private health facilities for any health purpose among illiterate/less literate women, women of more than 30 years age, Hindu women, women from castes other than SC/ST, women with high SLI, women not visited by health workers, women with medium autonomy and media exposure, women with no consumption of any health facilities in 1998 or consumption of private health facilities in 1998 (Table IIb). In Maharashtra, relatively higher proportion of women in the categories of literate, non-Hindu, visited by health workers, high women autonomy, high

media exposure and utilizing public health facilities; utilize 'both public and private' health facilities (Table IIb).

In Tamil Nadu, there is higher consumption of private health facilities among literate, castes other than SC/ST, women with high SLI and autonomy, women with low media exposure, women not utilizing any health facilities in 1998 or utilizing private facilities in 1998 (Table IIc). In Tamil Nadu, relatively higher proportion of women in the categories of age up to 30 years, non-Hindu, SC/ST, low & medium SLI , medium women autonomy, medium and high media exposure and utilizing public health facilities; utilize 'both public and private' health facilities (Table IIb).

These findings indicate very clearly that public health system is very weak in India. This necessitates immediate intervention from the government, particularly in Bihar. Unlike Bihar, to some extent consumption of public health facilities happen in the states of Maharashtra and Tamil Nadu, but along with private health facilities. This indicates plurality and shows that clients make their choices in between public and private health facilities. However, it has to be explored further that they are making their choices due to 'collapse of governance' in public health facilities or private health facilities are offering incomparable health services.

Determinants of consumption of public-private health facilities for any health purpose

In this section, the results of logistic regression analysis have been discussed. The section highlights the findings observed first at all combined states

level and then at the level of individual states. In the logistic regression analysis, dependent variables are facility type used. In the first model, dependent variable is public-private facility used. It has two categories, namely; public and private. The category of public has been given value of '0' and private category gets the value of '1'. In the second model, dependent variable is public-'both public and private' facility used. It has two categories, namely; public and 'both public and private'. The category of public has been given value of '0' and 'both public and private' gets the value of '1'. In the third model, dependent variable is private -'both public and private' facility used. It has two categories, namely; private and 'both public and private'. The category of public has been given value of '0' and 'both public and private' gets the value of '1'.In all three models, the predictors are education level of women, age of women, religion of women, ethnicity of women, standard of living of women, health workers' visit to women, level of autonomy of women, media exposure, states women belong to and proximity to health facility.

In Table Iii, the significant odd ratios of .595 and .516 for 'both public and private' seem to indicate that there is higher plurality in consumption of health facilities with younger group (up to 30 years age group). Younger women seem to be more utilizing a combination of public and private health facilities depending upon their health need and choice of facilities available at that point of time.

Women autonomy level does not seem to be emerging as significant determinant for kind of facilities' consumption .

Results indicate that if women had used private health facilities earlier then the probability of using private health facilities in comparison with public

increases. If she had used private earlier then in comparison with public, chances of utilizing both public and private are higher. Similarly if she had used public earlier then in comparison with private, chances of utilizing both public and private are higher. So, previous consumption experience seems to be playing a critical role. It is inferred here that if consumption of a health facility has taken place in the past that is likely to result in consumption of that health facility in later years as well; though, dependence on one single facility may not be there.

Contrary to the findings at all states combined level, in Bihar, the probability of utilizing private health facilities now is higher than public irrespective of the fact that she had used public or private during 1998. Unlike other states being compared here, it indicates further weakening of public health sector in Bihar. And it appears that in Bihar, there is lack of efforts to rejuvenate the public health sector after 1998. Findings indicate that during the initial stage of demographic transition like in Bihar, education and infrastructure (proximity to health facilities) determine the consumption as indicated through significance of odd ratios. However, in the later stages of demographic transition other factors also start determining the process of consumption as indicated in findings from Tamil Nadu.

Logistic regression analysis (Table IIib) indicates that in Maharashtra, women in more than 30 years age group, women with higher (medium/high) SLI, and, even women visited by health workers have higher chances of utilizing private health facilities. Women with higher SLI, and women visited by health workers have higher chances of utilizing 'both public and private' health facilities

than only public health facilities. Younger women, SC/ST women, women with low SLI and women visited by health workers, utilizing public health facilities in 1998, women with having access to facility only in more than 3 km range have higher chances of utilizing 'both public and private' health facilities than only private health facilities.

Logistic regression analysis (Table IIic) indicates that in Tamil Nadu literate women, women with higher SLI & autonomy, and women utilizing private health facilities in 1998 have higher chances of utilizing private health facilities in 2002. Women utilizing public health facilities in 1998 have higher chances of utilizing public health facilities in 2002 as well. This indicates the relative strength of public sector in Tamil Nadu. Women with higher SLI and autonomy, utilizing private health facilities in 1998 have higher chances of utilizing 'both public and private' health facilities than only public health facilities. This indicates that the higher the level of women autonomy within a state, the higher will be consumption of 'both public and private' health facilities". Women with low SLI, visited by health workers, higher media exposure, utilizing public facilities in 1998 have higher chances of utilizing 'both public and private' health facilities than only private health facilities.

It is apparent that there are regional differentials with respect to facility type used. The contextual determinants vary across the states. This establishes the relationship between socio-political climate of the state and the facility type used. The climate of the governance in these states is clearly reflected in the facility type used. This is one single common theme which binds these states is that in all these

states, public sector is weaker than private sector. However, plurality (consumption of both public and private) is more in the states of Maharashtra and Tamil Nadu. Health facilities represent organizational structure in these states. Public health facilities which are under control of the states, have become limited to the marginalized sections and that space is also shared with private health facilities. For this section, it seems that consumption of health facilities does not happen by choice. In case, when they find public health facilities, as inappropriate for complex health problems like delivery complications, they opt for private health facilities. This also happens when they find that undignified treatment at public health facilities they can not tolerate. Undignified treatment is likely to cause cognitive exclusion (exclusion at the level of perception). In order to deal with the problem of cognitive exclusion, they opt for consumption of private health facilities. This explanation is offered here on the basis of understanding of clients from the qualitative study. Taking this explanation forward, it appears that organizational structure of state has become insensitive towards the clients. There is urgent need to infuse this sensitivity in the public health facilities.

Table I: Consumption of Health Facilities for any Health Purpose: Longitudinal Assessment (All)

		No Consumption		Discontinuous consumption		Initiation During Follow up		Continuous Consumption	
		n	%	n	%	N	%	n	%
All		**1579**	**25.1**	**793**	**12.6**	**1669**	**26.5**	**2262**	**35.9**
Education	Illiterate	1281	29.2	557	12.7	1197	27.3	1350	30.8
	Literate < Middle completed	190	18.6	137	13.4	258	25.3	437	42.7
	Middle School complete	35	8.9	45	11.5	87	22.1	227	57.5
	High School complete and above	72	14.4	53	10.6	127	25.4	248	49.6
Age	Up to 30 years	753	24.7	357	11.7	848	27.8	1093	35.8
	More than 30 years	826	25.4	436	13.4	822	25.3	1169	35.9
Religion	Hindu	1339	24.2	699	12.6	1439	26.0	2055	37.1
	Non-Hindu[d]	239	31.1	94	12.2	229	29.8	207	26.9
Ethnicity	SC/ST	540	30.0	206	11.4	481	26.7	573	31.8
	Others	1038	23.1	587	13.1	1186	26.4	1684	37.5
Standard of living index	Low	976	29.3	398	12.0	919	27.6	1037	31.1
	Medium	531	22.1	305	12.7	595	24.7	972	40.5
	High	68	12.8	86	16.2	151	28.2	228	42.7
Health workers' Visit	No	1361	32.2	636	15.0	1196	28.3	1037	24.5
	Yes	217	10.5	157	7.6	473	22.8	1225	59.1
Women Autonomy	Low	915	28.4	446	13.9	924	28.7	933	29.0
	Medium	400	18.9	204	9.6	498	23.6	1014	47.9
	High	57	17.2	39	11.8	83	24.8	153	46.2
Media exposure	Low	128	21.7	86	14.5	162	27.4	215	36.4
	Medium	81	13.4	81	13.4	150	25.0	290	48.2
	High	86	11.9	68	9.4	160	22.2	406	56.4
State	Bihar[e]	1425	38.9	563	15.4	1119	30.5	559	15.2
	Maharashtra	102	9.1	118	10.6	281	25.2	615	55.1
	Tamil Nadu	52	3.4	112	7.3	269	17.7	1088	71.6
Proximity to health facility	Facility available in the village	651	21.6	402	13.4	745	24.8	1208	40.2
	Facility available outside the village <=3 km	377	24.9	200	13.2	410	27.1	526	34.8
	Facility available outside the village >3km	551	30.9	190	10.7	514	28.8	527	29.6

[d] Non-Hindu refers to religious groups of Muslim, Christian, Sikhs and others in India.
[e] Bihar refers to unified erstwhile Bihar (Bihar and Jharkhand combined).

Table Ia: Consumption of Health Facilities for any Health Purpose: Longitudinal Assessment (Bihar)

		No Consumption		Discontinuous consumption		Initiation During Follow up		Continuous Consumption	
		n	%	n	%	n	%	n	%
All		**1425**	**38.9**	**563**	**15.4**	**1119**	**30.5**	**559**	**15.2**
Education	Illiterate	1179	41.3	416	14.6	869	30.4	392	13.7
	Literate < Middle completed	159	33.7	86	18.3	144	30.4	83	17.5
	Middle School complete	25	24.1	19	18.4	34	32.1	27	25.4
	High School complete and above	61	26.2	42	17.9	72	31.3	57	24.6
Age	Up to 30 years	704	37.0	286	15.0	634	33.3	281	14.7
	More than 30 years	720	40.9	277	15.7	486	27.6	278	15.8
Religion	Hindu	1195	38.5	489	15.7	936	30.1	488	15.7
	Non-Hindu	229	41.1	74	13.3	183	32.8	71	12.8
Ethnicity	SC/ST	503	44.2	152	13.4	346	30.4	137	12.0
	Others	921	36.5	411	16.3	773	30.6	422	16.7
Standard of living index	Low	918	42.5	296	13.7	657	30.4	289	13.4
	Medium	454	36.0	210	16.7	386	30.6	210	16.7
	High	53	21.7	57	23.2	75	30.7	60	24.4
Health workers' Visit	No	1280	39.1	516	15.8	985	30.1	495	15.1
	Yes	144	37.0	47	12.1	134	34.4	64	16.5
Women Autonomy	Low	846	39.0	332	15.3	672	31.0	320	14.8
	Medium	337	39.7	118	13.9	272	32.1	122	14.4
	High	49	31.9	26	17.0	47	30.4	32	20.7
Media exposure (Among Exposed)	Low	114	32.1	62	17.4	121	33.9	59	16.7
	Medium	67	28.1	50	20.9	71	29.8	50	21.1
	High	61	29.3	35	16.5	58	27.5	56	26.7
Proximity to health facility	Facility available in the village	565	37.2	261	17.1	447	29.4	247	16.3
	Facility available outside the village <=3 km	347	35.8	158	16.3	296	30.5	169	17.5
	Facility available outside the village >3km	513	43.6	145	12.3	376	32.0	143	12.1

Table Ib: Consumption of Health Facilities for any Health Purpose: Longitudinal Assessment (Maharashtra)

		No Consumption		Discontinuous consumption		Initiation During Follow up		Continuous Consumption	
		n	%	n	%	n	%	n	%
All		**102**	**9.1**	**118**	**10.6**	**281**	**25.2**	**615**	**55.1**
Education	Illiterate	71	11.1	71	11.0	165	25.7	335	52.2
	Literate < Middle completed	26	9.6	28	10.4	65	24.1	151	55.8
	Middle School complete	3	3.0	14	13.9	22	21.5	62	61.6
	High School complete and above	2	1.9	5	4.9	29	28.6	66	64.5
Age	Up to 30 years	31	6.3	43	8.7	107	21.6	313	63.3
	More than 30 years	71	11.4	75	12.1	174	28.0	302	48.5
Religion	Hindu	94	9.4	106	10.6	252	25.2	550	54.9
	Non-Hindu	8	7.0	12	10.6	29	25.3	65	57.2
Ethnicity	SC/ST	19	8.1	22	9.7	65	28.0	126	54.3
	Others	82	9.4	96	10.9	213	24.4	484	55.3
Standard of living index	Low	40	8.2	55	11.1	135	27.4	263	53.3
	Medium	51	11.0	45	9.7	99	21.5	266	57.8
	High	8	5.7	18	12.3	44	30.9	73	51.2
Health workers' Visit	No	58	11.3	73	14.2	130	25.4	252	49.1
	Yes	44	7.3	45	7.5	151	25.0	364	60.2
Women Autonomy	Low	58	8.7	83	12.6	172	26.1	347	52.6
	Medium	26	9.8	18	6.7	61	22.7	165	60.8
	High	5	5.8	2	2.3	22	25.3	58	66.6
Media exposure (Among Exposed)	Low	10	9.0	17	15.8	20	18.3	61	56.9
	Medium	9	8.4	14	12.8	31	27.9	56	50.9
	High	12	4.7	16	6.3	66	25.7	163	63.2
Proximity to health facility	Facility available in the village	56	8.8	79	12.3	147	22.8	362	56.2
	Facility available outside the village <=3 km	20	8.5	19	8.5	62	27.0	128	56.0
	Facility available outside the village >3km	26	10.7	20	8.0	73	30.0	125	51.3

Table Ic: Consumption of Health Facilities for any Health Purpose: Longitudinal Assessment (Tamil Nadu)

		No Consumption		Discontinuous consumption		Initiation During Follow up		Continuous Consumption	
		n	%	n	%	n	%	n	%
All		**52**	**3.4**	**112**	**7.4**	**269**	**17.7**	**1088**	**71.5**
Education	Illiterate	31	3.5	71	8.0	163	18.3	623	70.2
	Literate < Middle completed	5	1.8	23	8.1	49	17.6	203	72.5
	Middle School complete	7	3.7	12	6.3	32	16.9	138	73.1
	High School complete and above	9	5.5	6	3.7	25	15.2	124	75.6
Age	Up to 30 years	17	2.6	28	4.3	107	16.4	499	76.6
	More than 30 years	35	4.0	84	9.6	162	18.6	589	67.8
Religion	Hindu	50	3.5	104	7.3	251	17.6	1018	71.6
	Non-Hindu	2	2.0	8	8.1	17	17.6	70	72.3
Ethnicity	SC/ST	18	4.2	31	7.2	70	16.3	310	72.3
	Others	34	3.1	81	7.4	199	18.2	778	71.3
Standard of living index	Low	18	2.6	48	7.1	127	18.7	485	71.6
	Medium	27	4.0	50	7.3	110	16.1	496	72.7
	High	7	4.9	12	8.3	31	21.5	95	65.3
Health workers' Visit	No	23	5.2	47	10.6	81	18.4	291	65.8
	Yes	29	2.7	65	6.0	188	17.4	797	73.9
Women Autonomy	Low	12	3.1	31	8.0	80	20.6	266	68.4
	Medium	37	3.7	68	6.8	165	16.5	727	73.0
	High	3	3.3	11	12.0	14	15.1	64	69.5
Media exposure (Among Exposed)	Low	4	3.2	7	5.5	21	16.7	94	74.7
	Medium	5	2.0	17	6.7	49	19.3	184	72.1
	High	12	4.8	17	6.7	36	14.3	187	74.2
Proximity to health facility	Facility available in the village	29	3.4	63	7.4	151	17.9	599	71.2
	Facility available outside the village <=3 km	11	3.4	23	7.3	53	16.7	229	72.6
	Facility available outside the village >3km	12	3.3	26	7.1	65	17.9	260	71.6

Table Ii: Determinants of consumption of health facilities for any health purpose
(Dependent Variable – No Consumption /Discontinuous Consumption =0
Initiation during follow up/continuous consumption =1)
Odd Ratios from Logistic Regression Analysis

		All	Bihar	Maharashtra	Tamil Nadu
Education[f]	Illiterate®				
	Literate	1.264*[g]	1.321	1.711*	1.035
Age	Up to 30 years®				
	More than 30 years	.790*	.991	.701	.818
Religion	Hindu®				
	Non-Hindu	.737*	.725	.642	1.423
Ethnicity	SC/ST®				
	Others	.906	.740*	2.079***	2.075***
Standard of living[h] index	Low ®				
	Medium and high	.784*	.960	.634	.901
Health workers' visit	No ®				
	Yes	1.447***[i]	.842	1.873***	3.568***
Women autonomy	Low®				
	Medium and High	1.252*	1.226	1.656*	1.451
Media exposure (Among exposed)	Low®				
	Medium and High	1.256*	1.143	2.486***	1.755**
Proximity to health facility	Facility available in the village®				
	Facility available outside the village <=3 km	1.310*	1.415**[j]	1.340	1.182
	Facility available outside the village >3km	1.273	1.109	1.425	1.170
States	Bihar®				
	Maharashtra	4.132***	N.A.[k]	N.A.	N.A.
	Tamil Nadu	6.047***	N.A.	N.A.	N.A.

[f] In Logistic regression analysis for SLI, Literate<middle completed, middle school complete, high school complete and above have merged to create the category of 'literate'. The similar categorization is followed for all sets of logistic regression analysis in this paper.
[g] $p<.05$
[h] In Logistic regression analysis for SLI, women autonomy and media exposure; medium and high category have been merged as 'medium and high'. The similar categorization is followed for all sets of logistic regression analysis in this paper.
[i] $p<.001$
[j] $p<.01$
[k] Not applicable in state wise analysis.

Table II: Consumption of Public-Private Health Facilities for any Health Purpose (All)

		Public		Private		Both public and private	
		n	%	n	%	n	%
All		**428**	**10.9**	**2430**	**61.8**	**1073**	**27.3**
Education	Illiterate	299	11.7	1625	63.8	623	24.5
	Literate < middle completed	71	10.3	408	58.7	216	31.0
	Middle school complete	29	9.2	167	53.0	119	37.7
	High school complete and above	29	7.7	231	61.6	115	30.8
Age	Up to 30 years	206	10.6	1169	60.2	566	29.2
	More than 30 years	222	11.2	1262	63.4	507	25.5
Religion	Hindu	397	11.4	2126	60.8	971	27.8
	Non-Hindu	29	6.7	304	69.8	102	23.5
Ethnicity	SC/ST	138	13.1	610	57.9	305	29.0
	Others	288	10.1	1817	63.3	764	26.6
Standard of living Index	Low	254	13.0	1179	60.3	523	26.8
	Medium	152	9.7	951	60.7	464	29.6
	High	20	5.4	290	76.5	68	18.1
Health workers' visit	No	195	8.7	1640	73.4	399	17.9
	Yes	233	13.7	790	46.6	674	39.7
Women autonomy	Low	187	10.1	1268	68.3	402	21.6
	Medium	196	13.0	781	51.6	535	35.4
	High	15	6.3	139	58.7	82	34.9
Media exposure	Low	25	6.7	257	68.3	94	25.0
	Medium	47	10.7	246	56.0	147	33.3
	High	57	10.0	300	53.1	209	36.9
Health facilities usage (NFHS-II)	No consumption	157	9.4	1229	73.7	283	16.9
	Pubic	136	22.4	196	32.2	276	45.4
	Private	134	8.1	1005	60.8	515	31.1
State	Bihar	124	7.4	1391	82.9	163	9.7
	Maharashtra	74	8.3	533	59.5	289	32.3
	Tamil Nadu	230	16.9	506	37.3	621	45.8
Proximity to health Facility	Facility available in the village	231	11.8	1170	59.9	552	28.3
	Facility available outside the village <=3 km	93	10.0	602	64.2	242	25.8
	Facility available outside the village >3km	104	10.0	658	63.2	279	26.8

Table IIa: Consumption of Public-Private Health Facilities for any Health Purpose (Bihar)

		Public		Private		Both Public and Private	
		n	%	n	%	n	%
All		**124**	**7.4**	**1391**	**82.9**	**163**	**9.7**
Education	Illiterate	99	7.8	1050	83.2	113	8.9
	Literate < Middle completed	13	5.9	184	81.2	29	12.9
	Middle School complete	2	3.2	55	90.5	4	6.3
	High School complete and above	10	7.5	102	79.2	17	13.3
Age	Up to 30 years	69	7.6	745	81.5	100	10.9
	More than 30 years	55	7.1	646	84.6	63	8.3
Religion	Hindu	115	8.1	1165	81.9	143	10.1
	Non-Hindu	9	3.6	226	88.6	20	7.8
Ethnicity	SC/ST	42	8.6	386	79.9	55	11.4
	Others	82	6.9	1005	84.1	108	9.0
Standard of living index	Low	67	7.1	789	83.4	90	9.5
	Medium	45	7.6	488	81.8	63	10.6
	High	11	7.8	114	84.7	10	7.4
Health workers' Visit	No	98	6.6	1238	83.7	143	9.7
	Yes	26	13.0	153	77.1	20	9.9
Women Autonomy	Low	77	7.7	823	83.0	92	9.3
	Medium	28	7.1	323	82.1	43	10.8
	High	3	3.5	66	83.6	10	12.8
Media exposure	Low	8	4.5	149	82.6	23	12.9
	Medium	10	8.4	94	78.1	16	13.5
	High	7	5.9	96	84.5	11	9.5
Health facilities usage (NFHS-II)	No Consumption	86	7.7	937	83.7	96	8.6
	Pubic	6	9.7	50	80.3	6	10
	Private	32	6.4	404	81.4	61	12.2
Proximity to health facility	Facility available in the village	36	11.5	258	82.0	21	6.5
	Facility available outside the village <=3 km	53	4.0	1131	85.2	142	10.7
	Facility available outside the village >3km	99	7.8	1050	83.2	113	8.9

Table IIb: Consumption of Public-Private Health Facilities for any Health Purpose (Maharashtra)

		Public		Private		Both Public and Private	
		n	%	n	%	n	%
All		**74**	**8.3**	**533**	**59.5**	**289**	**32.3**
Education	Illiterate	48	9.6	305	61.1	147	29.3
	Literate < Middle completed	13	6.0	133	61.5	71	32.6
	Middle School complete	7	8.6	41	48.2	36	43.2
	High School complete and above	6	6.3	54	56.4	36	37.4
Age	Up to 30 years	37	8.8	216	51.3	168	39.9
	More than 30 years	37	7.7	318	66.7	122	25.6
Religion	Hindu	71	8.8	483	60.1	249	31.0
	Non-Hindu	3	3.3	50	53.7	40	43.0
Ethnicity	SC/ST	26	13.6	98	51.3	67	35.1
	Others	47	6.8	432	61.9	219	31.3
Standard of living index	Low	41	10.2	225	56.6	132	33.2
	Medium	28	7.8	218	59.8	118	32.5
	High	5	4.2	82	69.2	31	26.6
Health workers' Visit	No	33	8.7	261	68.4	87	22.9
	Yes	41	7.9	272	52.9	202	39.2
Women Autonomy	Low	46	8.9	311	59.9	162	31.1
	Medium	15	6.8	138	61.1	73	32.1
	High	4	5.2	39	48.9	37	45.9
Media exposure	Low	5	6.3	48	59.7	28	34.0
	Medium	3	3.6	60	69.3	24	27.2
	High	18	7.8	119	52.1	92	40.0
Health facilities usage (NFHS-II)	No Consumption	26	9.2	179	63.6	77	27.2
	Pubic	21	13.4	63	39.7	74	46.9
	Private	27	5.9	292	63.8	139	30.3
Proximity to health facility	Facility available in the village	57	14.4	238	60.1	101	25.6
	Facility available outside the village <=3 km	7	1.4	291	59.9	188	38.7
	Facility available outside the village >3km	48	9.6	305	61.1	147	29.3

Table IIc: Consumption of Public-Private Health Facilities for any Health Purpose (Tamil Nadu)

		Public		Private		Both Public and Private	
		n	%	n	%	n	%
All		**230**	**16.9**	**506**	**37.3**	**621**	**45.8**
Education	Illiterate	152	19.3	269	34.3	364	46.4
	Literate < Middle completed	45	17.9	91	36.1	116	46.0
	Middle School complete	20	11.7	72	42.1	79	46.2
	High School complete and above	13	8.7	74	49.6	62	41.7
Age	Up to 30 years	99	16.3	208	34.3	299	49.4
	More than 30 years	131	17.4	298	39.7	322	42.8
Religion	Hindu	212	16.7	478	37.7	578	45.6
	Non-Hindu	17	19.5	28	32.1	42	48.4
Ethnicity	SC/ST	71	18.7	126	33.1	183	48.2
	Others	159	16.3	380	38.9	438	44.8
Standard of living index	Low	146	23.8	164	26.8	302	49.3
	Medium	78	12.9	246	40.6	282	46.6
	High	5	3.9	94	74.6	27	21.5
Health workers' Visit	No	63	17.0	141	37.8	168	45.1
	Yes	166	16.9	365	37.1	453	46.0
Women Autonomy	Low	64	18.6	134	38.7	148	42.8
	Medium	153	17.1	319	35.8	420	47.1
	High	8	10.2	34	43.8	36	46.0
Media exposure (Among Exposed)	Low	12	10.5	60	51.9	43	37.6
	Medium	34	14.6	92	39.5	107	45.9
	High	32	14.3	85	38.0	106	47.7
Health facilities usage (NFHS-II)	No Consumption	45	16.7	114	42.3	110	41
	Pubic	109	28.2	83	21.4	195	50.4
	Private	76	10.8	309	44.2	315	45
Proximity to health facility	Facility available in the village	156	21.7	259	36.2	301	42.1
	Facility available outside the village <=3 km	14	2.4	243	42.1	319	55.4
	Facility available outside the village >3km	152	19.3	269	34.3	364	46.4

Table Iii: Determinants of consumption of public-private health facilities for any health purpose (All)
Odd Ratios from Logistic Regression Analysis

		DV[l] (Public = 0, Private = 1)	DV (Public = 0, Both Public and Private= 1)	DV (Private = 0, Both Public and Private= 1)
Education	Illiterate®			
	Literate[m]	1.715**[n]	1.466	.810
Age	Up to 30 years®			
	More than 30 years	1.297	.595*	.516***
Religion	Hindu®			
	Non-Hindu	1.613	1.240	1.304
Ethnicity	SC/ST®			
	Others	1.544	.715	.367***
Standard of living index	Low ®			
	Medium and High	2.613***[o]	1.234	.417***
Health workers' Visit	No®			
	Yes	.551*[p]	.737	1.438**
Women Autonomy	Low®			
	Medium and high	1.344	1.96	1.029
Media exposure	Low®			
	Medium and high	.358***	.337***	1.180
Consumption (NFHS II)	No consumption ®			
	Public	.308	.868	2.446***
	Private	1.842**	2.120**	1.126
State	Bihar®			
	Maharashtra	3.307***	5.734***	2.159***
	Tamil Nadu	1.353	5.153***	3.665***
Proximity to health facility	Facility available in the village®			
	Facility available outside the village <=3 km	1.896**	1.483	.909
	Facility available outside the village >3km	1.148	1.723	1.153

[l] DV refers to Dependent Variable.
[m] Literate<middle completed, middle school complete, high school complete and above have merged to create the category of 'literate'.
[n] $p<.01$
[o] $p<.001$
[p] $p<.05$

Table IIia: Determinants of consumption of public-private health facilities for any health purpose (Bihar)
Odd Ratios from Logistic Regression Analysis

		DV (Public = 0, Private = 1)	DV (Public = 0, Both Public and Private= 1)	DV (Private = 0, Both Public and Private= 1)
Education	Illiterate®			
	Literate	-[q]	-	.970
Age	Up to 30 years®			
	More than 30 years	1.982***	.723	.316***
Religion	Hindu®			
	Non-Hindu	-	-	-
Ethnicity	SC/ST®			
	Others	4.271***	1.220	.221***
Standard of living index	Low ®			
	Medium and High	1.362	1.145	.693**
Women Autonomy	Low®			
	Medium and high	1.928***	1.709**	.630***
Consumption (NFHS II)	No Consumption ®			
	Public	2.512***	-	-
	Private	3.580***	-	-

[q] Logistic Regression Analysis has not been carried out in such cases due to less than 30 numbers of observations.

Table IIib: Determinants of consumption of public-private health facilities for any health purpose (Maharashtra)
Odd Ratios from Logistic Regression Analysis

		DV (Public = 0, Private = 1)	DV (Public = 0, Both Public and Private= 1)	DV (Private = 0, Both Public and Private= 1)
Education	Illiterate®			
	Literate	-	-	1.372
Age	Up to 30 years®			
	More than 30 years	3.845***	1.278	.352***
Religion	Hindu®			
	Non-Hindu	-	-	1.438
Ethnicity	SC/ST®			
	Others	-	-	.340***
Standard of living index	Low ®			
	Medium and High	3.214***	2.012***	.581**
Health workers' Visit	No®			
	Yes	2.225***	3.334***	1.646**
Women Autonomy	Low®			
	Medium and high	-	-	1.546
Media exposure	Low®			
	Medium and high	-	-	.825
Consumption (NFHS II)	No Consumption ®			
	Public	-	-	3.387***
	Private	-	-	.986
Proximity to health facility	Facility available in the village®			
	Facility available outside the village <=3 km	-	-	1.333
	Facility available outside the village >3km	-	-	1.766*

Table IIic: Determinants of consumption of public-private health facilities for any health purpose (Tamil Nadu)
Odd Ratios from Logistic Regression Analysis

		DV (Public = 0, Private = 1)	DV (Public = 0, Both Public and Private= 1)	DV (Private = 0, Both Public and Private= 1)
Education	Illiterate®			
	Literate	1.739**	1.444	.674
Age	Up to 30 years®			-
	More than 30 years	1.244	1.032	.730
Religion	Hindu®			
	Non-Hindu			1.644
Ethnicity	SC/ST®			
	Others	.942	1.091	.675
Standard of living index	Low ®			
	Medium and High	3.51***	1.582***	.418***
Health workers' visit	No®			
	Yes	.858	1.006	1.561**
Women Autonomy	Low®			
	Medium and high	1.377*	1.474***	1.166
Media exposure	Low®			
	Medium and high	-	-	2.029***
Consumption (NFHS II)	No Consumption ®	-	-	
	Public	.341***	1.019	2.304***
	Private	1.624**	2.135***	1.148
Proximity to health facility	Facility available in the village®			
	Facility available outside the village <=3 km	-	-	.886
	Facility available outside the village >3km	-	-	1.180