

# Gender Equity as a Dimension of Progress Towards Universal Health Coverage

## Evidence from India's 71st Round National Sample Survey

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*Universal Health Coverage (UHC) has emerged as a major health policy discourse across the world. Its proponents claimed it as the third grand transition in health after demographic and epidemiological transitions, whereas others have called it "old wine in a new bottle." UHC aims that everyone irrespective of their socio-economic status or gender should have access to essential healthcare facilities without facing any financial hardships. Equity is considered to be the central epithet in any UHC model, and in the Indian context, gender equity is a critical factor in the quest for achieving UHC.*

*This study aims to explore progress towards UHC in the dimensions of access and financial protection in India, and differentials in these by sex.*

*The current study is based on India's recently released data from the 71st Round of the National Sample Survey (NSS), 2014. The survey covered 65932 households (rural: 36480, urban: 29452) in India which included 3,33,104 individuals (men: 1,68,697 women: 1,64,407). Healthcare utilization, hospitalization rate, the proportion of the ailing population (PAP), insurance coverage, out of pocket expenditure (OOPE), catastrophic health expenditure (CHE) and impoverishment were calculated from the data set. By disaggregating the data set by sex, all the above indicators were analyzed through a gender lens. Various other equity dimensions (geographical location, caste, and economic category) were also analyzed in the sex-disaggregated data set. Descriptive statistics were used as the main data analysis technique.*

*Both, the hospitalization rate and the proportion of ailing population was higher for females as compared to males. The female hospitalization rate (per 100 population) was 3.1 as compared to 2.9 for male, and the proportion of the ailing population (PAP) per 1000 females was 110 as against 87 for males. There were significant inter-state variations. For instance, the hospitalization rate for males was higher than for females in states like Haryana, Maharashtra, Andhra Pradesh and Kerala. Public healthcare utilization for in-patient care was higher for women (50 per cent) than for men (37 per cent), and this pattern was consistent across all social groups and income quintiles. Insurance coverage was almost equal (women: 15.5 per cent, men: 15.0 per cent) for both men and women, but out of pocket expenditure (OOPE) was higher for men (Rs. 18,843) than for women (Rs. 11,251). Underlying many of the observed sex-differentials may be gender-related factors such as lower resource allocation within the household for female members.*

*In the current UHC discourse, sex/ gender is one of the important equity differentials which varies across the different States of India. This differential significantly increases for women belonging to lower socio-economic status. Public health facilities are major service providers for women, which is not the case for men. This signifies the importance of strengthening public health institutions in the country in its quest for achieving UHC.*

**Keywords :** Universal Health Coverage (UHC), Gender, Financial Protection, Access

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As the world moves from Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs), Universal Health Coverage (UHC) has taken a central position in policy discourses (Vega, 2013). “Universal health coverage means all people receiving the health services they need, including health initiatives designed to promote better health (such as anti-tobacco policies), prevent illness (such as vaccination), and to provide treatment, rehabilitation and palliative care (such as end-of-life care) of sufficient quality to be effective while at the same time ensuring that the use of these services does not expose the user to financial hardship” (World Health Organization [WHO], 2015). MDGs were criticized for not considering equity while measuring the progress (Gwatkin, 2002), hence post MDGs, the agenda is committed towards equity, and is embodied in the acknowledgement that the future development agenda must “leave no person behind” (United Nations [UN], 2013). Thus, those who have higher needs should be able to receive more services (Witter, Govender, Ravindran, & Yates, 2017). Ideally, UHC is conceptualized to provide the full spectrum of comprehensive, quality health services to everyone irrespective of their socio-economic or gender status without facing any financial hardships (Boerma et al., 2014). Even though many equity dimensions hinder India’s pursuit towards achieving UHC, ‘gender’ is highly significant and important to examine.

Indian society is diverse and stratified by caste, class, ethnicity, religion, and gender. The relations between men and women in India are highly unequal with significant power differentials (UN, 2009). Gender refers to structural inequalities marked by unequal access for women and men to material and non-material resources (Sen, George, & Ostlin, 2002). Inequalities coupled with increased poverty and gender bias results in creating multiple barriers to women’s well-being (Larson, George, Morgan, & Poteat, 2016). Numerous studies have documented the influence of gender-based barriers on women’s and girls’ access to healthcare services (Barros et al., 2012, Houweling, Ronsmans, Campbell, & Kunst, 2007, Molina, Nakamura, Kizuki, & Seino, 2013). These gender-based obstacles can be either restriction on the mobility of women and girls to access the healthcare institutions, access to sources of income or in decision making in the household (WHO, 2011). In many cases, women suffer ill-health silently due to the way in which they are socialized, and pay less attention to their health because of the competing demands of work and care (UN, 2009). Other gender-based vulnerabilities in the Indian context such as, low marriage age, pregnancy at a younger age, repeated pregnancies and limited access to modern contraceptives results in increased morbidity and mortality for women (Raj, Saggurti, Balaiah, & Silverman, 2009). It is also to be noted that women have a wide range of health needs, apart from those related to pregnancy and maternal health (WHO, 2009).

In the World Economic Forum’s (WEF) Global Gender Gap Report, 2017, India slipped 21 places to occupy the 108th position among 144 countries, which is among the lowest ranked nation in terms of gender equity (World Economic Forum [WEF], 2017). If this present trend continues, India will not be able to accomplish its SDG targets with regards to maternal health and women’s empowerment.

Considering India’s large landscape and cultural diversity, there is considerable variation in gender bias across various States and social groups. Further, the intersection of gender with other social stratification existing in the Indian society can exacerbate access and utilization of care (Ravindran, 2012). This can result in increased vulnerabilities to women belonging to different social groups. Furthermore, women and girls from a low socio-economic background and rural areas are more vulnerable to barriers to accessing healthcare than those from higher socio-economic status and

urban areas (UN, 2006). For instance, a woman from Scheduled Caste (SC) community faces a double disadvantage (of being a woman and being a woman from an SC community) due to the patriarchal and caste system prevailing in the country (Mamgain, 2014). Hence, reduction in gender inequity is inevitable for good health and well-being of women in India (Witter et al., 2017).

India has one of the most commercialized health care system in the world (Bisht, Pitchforth, & Murray, 2012). It is one of the countries where the proportion of out of pocket expenditure on health is among the highest (Berman, Ahuja, & Bhandari, 2010). Out-of-pocket expenditure on healthcare impoverishes a large section of the population (Sundararaman, Mukhopadhyay, & Muraleedharan, 2016). Also, low public investment in health is the quintessential characteristic of India's health care financing. The under-funding of public health facilities and unregulated private health sector with a huge cost of care has led to many challenges in the delivery of effective health services to the population particularly those belonging to the marginalized section of the society including women (ibid). However, given the rising costs of medical care, it is likely that women may find it difficult to access the formal care and may thus experience high untreated morbidity (Sen, Iyer, & George, 2002).

In India, there are few studies which have explored the gender dimensions of access and financial protection in the context of UHC (Witter et al., 2017). The discussion of UHC in the Indian context is also timely considering the poor access to affordable and quality healthcare as well as the inequities existing in healthcare scenario. The current study has been conceptualized on the three-dimensional UHC Cube, proposed by WHO and World Bank (WHO, 2010a). Three dimensions of the UHC cube are; 1) Population- who is covered, 2) Services-which services are covered, and 3) Direct cost: the proportion of cost covered. In this context access and financial protection are the two most important components. In order to reduce health inequity, many governments have targeted the health system to improve access to healthcare and to distribute more equitable healthcare across the population (Allin & Masseria, 2009). Also, among various health systems reforms (governance, healthcare financing, health workforce, medical products and technology, information and research, and service delivery), WHO identifies that health financing system reform will have the greatest impact in improving equity (WHO, 2010b). The present study attempts to explore access and financial protection by sex-disaggregated analysis and also its interaction with other social stratifiers such as caste, class, rural-urban location and region.

## **Methods**

This study is based on the 71st Round of National Sample Survey (NSS) data which was collected between January 2014 to June 2014, by National Sample Survey Office (NSSO), Ministry of Statistics and Programme Implementation. It was a cross-sectional survey which used a stratified sample design with two stages. In the first stage, census villages and urban blocks were sampled as first stage units for rural and urban areas respectively. The household was the second stage unit. A total of 65,932 households (Rural: 36,480; Urban: 29,452) were surveyed for the whole of the Indian Union, and 3,33,104 individuals (Men-1,68,697; Women-1,64,407) participated in the survey. Apart from socio-demographic information, the survey collected information related to inpatient care (in the last 365 days), outpatient care (in the last 15 days), nature of the ailment, types of service

providers, and cost of care. The survey also collected information related to maternal health and geriatric care.

In the present study, we focus on the use of disaggregated data on sex and highlight the differences and similarities between men and women from a gender perspective rather than the biomedical perspective. Interaction of gender inequity was analyzed with other social stratifiers in the society based on caste, class (income) and geographical location from an intersectional perspective. Further, our analysis also attempts to bring in the discussion on gender-based questions on financial access and decision making power in access to healthcare (Morgan et al., 2016). Access and financial protection were considered. Healthcare utilization, hospitalization rate, and PAP were considered as access indicators for the study (Aday & Andersen, 1974), whereas insurance coverage, out-of-pocket expenditure (OOPE), Catastrophic health expenditure at 10 per cent threshold (CHE-10) and impoverishment were considered financial protection indicators (WHO, 2010b).

We categorized age into six groups: 0-5, 6-15, 16-30, 31-45, 46-60 and 60+ category. Social groups were categorized as Scheduled Tribes (ST), Scheduled Castes (SC), Other Backward Classes (OBC) and General Caste Category (GEN). Education was categorized as illiterate, up to the primary, up to secondary, and above secondary levels. The hospitalization rate was calculated based on the number of individuals who reported getting hospitalized (out of 100 individuals) in the last 365 days. The hospitalization rate for women was calculated after excluding hospitalization due to childbirth since it was considered as a wellness event. The proportion of the ailing population (PAP) in 1000 was calculated based on the number of individuals who reported getting out-patient treatment in the 15 days before the survey. Sub-centre, ANM, ASHA, primary health centre, community health centre, mobile medical unit and public hospitals were categorized under public provider, whereas private doctor or clinic, and private hospitals were categorized under private provider for the analysis. Household's usual monthly consumption expenditure was used for generating income quintile (poorest, poor, middle, rich and richest) for the study. Household's usual annual consumption expenditure was calculated by multiplying household's usual monthly consumption expenditure by twelve. Out-of-pocket expenditure (OOPE) was calculated by adding transportation costs to the total medical expenditure and subtracting the reimbursement amounts. Catastrophic health expenditure at 10 per cent threshold (CHE-10) was calculated if OOPE in last one year was more than 10 per cent of the usual annual consumption expenditure of the household (Limwattananon, Tangcharoensathien, & Prakongsai, 2007, Prinja, Kanavos, & Kumar, 2012). For calculation of impoverishment, Planning Commission Report, 2014 was used (Planning Commission, 2014). According to this, if household's usual per capita monthly expenditure was less than Rs. 972 in rural areas and Rs. 1407 in urban areas, it was considered as below poverty line.

Simple descriptive statistics were used to calculate hospitalization rates, the proportion of the ailing population (PAP), catastrophic health expenditure at 10 per cent threshold (CHE-10), impoverishment and utilization of healthcare from a public or private provider. STATA version 12 software was used for analysis of the dataset.

## **Results**

The results section of this study is organized into two broad headings; 1) Access, and 2) Financial protection.

## Access

For this study, access was examined through hospitalization rate for inpatient care, and proportion of the ailing population (PAP) per 1000 population for out-patient care.

### *Hospitalization Rate*

The overall hospitalization rate in India was 3.0 (per 100), and it was slightly higher for women (3.1, excluding childbirth) when compared to men (2.9) (Table 1). Out of the 36 States and Union Territories (UT) in Indian Union, hospitalization rate was higher for women in 24 States and UTs. In ten States and UTs (Haryana, Delhi, Nagaland, Tripura, Meghalaya, Dadra & Nagar Haveli, Maharashtra, Andhra Pradesh, Goa and Kerala) hospitalization rate for men was higher than for women. This difference was highest in Dadra & Nagar Haveli and Andhra Pradesh where men's hospitalization rate was 55 per cent and 24 per cent higher compared to women, respectively. Among all the States, Kerala had the highest (9.2), and Meghalaya and Assam reported the lowest (1.2) hospitalization rate in the country.

**Table 1: Hospitalization Rate (Per 100) And PAP (Per 1000) In States of India**

	State	Hospitalization Rate			PAP			N
		Men	Women	Total	Men	Women	Total	
1	Jammu & Kashmir	2.2	2.9	2.5	49	70	59	6788
2	Himachal Pradesh	3.9	4.7	4.3	57	100	79	4392
3	Punjab	2.5	3.2	2.9	133	202	166	7797
4	Chandigarh	1.9	2.6	2.2	130	140	134	6026
5	Uttaranchal	2.0	2.0	2.0	70	100	84	3177
6	Haryana	3.1	2.8	3.0	58	67	62	8040
7	Delhi	2.6	2.3	2.5	40	40	40	5424
8	Rajasthan	2.4	2.6	2.5	55	70	62	16655
9	Uttar Pradesh	1.8	2.4	2.1	66	80	73	47083
10	Bihar	1.6	2.2	1.9	53	63	58	17596
11	Sikkim	1.3	2.4	1.8	34	49	41	2100
12	Arunachal Pradesh	3.0	3.1	3.1	81	95	88	2994
13	Nagaland	1.4	1.3	1.4	39	17	28	2651
14	Manipur	2.1	2.3	2.2	20	18	19	7187
15	Mizoram	1.9	2.7	2.3	29	27	28	3864
16	Tripura	4.3	4.2	4.2	29	49	39	5977
17	Meghalaya	1.3	1.1	1.2	26	35	31	4380
18	Assam	1.1	1.3	1.2	25	43	33	11411
19	West Bengal	3.4	3.5	3.4	142	193	167	22783
20	Jharkhand	1.4	1.7	1.5	52	73	62	8318
21	Odisha	2.9	3.1	3.0	89	117	102	11576
22	Chhattisgarh	2.1	2.3	2.2	44	37	41	874

23	Madhya Pradesh	2.3	2.7	2.5	53	64	58	19131
24	Gujarat	3.2	3.2	3.2	90	103	96	15211
25	Daman & Diu	3.3	4.5	3.8	36	336	165	537
26	D & N Haveli	4.5	2.9	3.7	89	126	106	641
27	Maharashtra	3.6	3.4	3.5	70	82	76	27124
28	Andhra Pradesh	4.7	3.8	4.3	165	175	170	10636
29	Karnataka	3.4	3.5	3.5	85	111	98	14727
30	Goa	3.8	2.7	3.3	190	171	181	916
31	Lakshadweep	4.3	7.0	5.5	179	245	208	836
32	Kerala	9.2	9.1	9.2	292	323	308	11229
33	Tamil Nadu	4.6	4.4	4.5	140	188	164	16090
34	Puducherry	4.6	4.7	4.6	242	171	207	1117
35	A & N Islands	4.3	3.6	4.0	127	235	178	1234
36	Telangana	3.4	3.6	3.5	83	111	97	6582
	Total	2.9	3.1	3.0	87	110	98	333104

Overall hospitalization rate in rural India (2.8) was lower than in urban (3.5) areas. However, the difference in hospitalization rate between women and men was relatively higher in urban areas (12 per cent) compared to rural areas (7 per cent) (Table 2). Across various social groups, hospitalization rate was highest among the general category (3.3) and lowest among the ST category (2.1). The difference in hospitalization rate between SC (3.0), OBC (3.1) and the general caste category (3.3) was relatively smaller compared to the difference between ST category (2.1) and all other social groups. Across all social groups, hospitalization rate in women was higher than for men (Table 2).

In both rural and urban India, hospitalization rates increased significantly from the poorest to the richest sections of society. The poorest section of rural India had the lowest (1.8) hospitalization rate among all. On the other hand, it was highest (5.0) in the richest section of rural India. Similarly, in urban areas, hospitalization rate in the richest section was 1.9 times higher than among the poorest. In all economic classes, hospitalization rate in women was higher than for men. However, in the rich population of rural areas men had marginally higher hospitalization rate compared to women.

**Table 2: Hospitalization Rate and PAP Across Different Equity Differentials by Gender**

	Hospitalization			PAP		
	2.9	3.1	3.0	87	110	98
<b>Total</b>						
<b>Rural-urban divide</b>						
Rural	2.7	2.9	2.8	80	99	89
Urban	3.3	3.7	3.5	101	136	118
<b>Social Group</b>						
ST	2.0	2.2	2.1	65	73	69
SC	2.9	3.2	3.0	79	106	92

OBC	2.9	3.1	3.1	87	110	98
GEN	3.2	3.4	3.3	99	125	111
<b>Economic Class</b>						
<b>Rural</b>						
Poorest	1.6	2.0	1.8	62	68	65
Poor	2.1	2.3	2.2	70	88	79
Middle	2.5	2.6	2.6	72	95	83
Rich	3.5	3.4	3.4	94	112	103
Richest	4.8	5.2	5.0	120	153	136
<b>Urban</b>						
Poorest	2.3	2.6	2.5	72	94	83
Poor	3.3	3.4	3.4	94	127	110
Middle	3.7	4.4	4.0	105	158	130
Rich	3.4	4.1	3.7	117	154	134
Richest	4.5	5.0	4.7	143	182	161

### ***Proportion of ailing population (PAP)***

In India, 98 people reported ailing (per 1000) in last 15 days due to any ailments (Table 2). PAP for men was 87 whereas it was 110 for women. In most States, PAP for women was higher than for men except in six States/UTs (Nagaland, Manipur, Mizoram, Chhattisgarh, Goa, and Puducherry). Kerala (308) reported the highest PAP whereas it was least for Manipur (19). The PAP reported by women was least in Nagaland (17) and maximum from Daman & Diu (336), followed by Kerala (323) whereas, for men population, it was least from Manipur (20) and maximum from Kerala (292) (Table 1)

The PAP reported in rural and urban areas were 89 and 118 respectively. As in the case of hospitalization, the difference between women and men in PAP was higher for urban areas compared to rural areas. PAP was highest for the general caste category (111) and lowest for ST population (69). In both rural and urban areas, PAP significantly increased from the poorest to the richest sections of the population. In rural areas, PAP increased from 65 (poorest) to 136 (richest), whereas in urban areas it increased from 83 (poorest) to 161 (richest). In all sections of the society, PAP was higher for women when compared to men (Table 2).

### **Healthcare utilization**

Healthcare utilization was another measure to evaluate access. In this study, the focus of healthcare utilization was broadly categorized as those utilizing the services of the public or the private health care provider either for inpatient or outpatient care.

***Hospitalization (In-patient care):*** In India, 45 per cent of total hospitalization was in public facilities (Table 3). This proportion was higher for women. Of all women who were hospitalized in the one year preceding the survey, 50 per cent went to the public provider. On the other hand, only 37 per cent of the male population went to the public provider. The proportion of women who went to public facilities was higher in rural (56 per cent) areas compared to urban (37 per cent) areas. A

similar trend was seen for the male population, with a relatively larger proportion going to a public facility in rural areas (39 per cent) when compared to urban areas (32 per cent).

Examining across various social groups, 68 per cent of the ST population utilized public facilities for hospitalization during the one year preceding the survey, whereas among the general caste group, only 39 per cent went to public facilities. Among the male population, 56 per cent of STs and 33 per cent of general caste populations went to a public facility, but for the female population, this proportion was 73 per cent and 43 per cent respectively.

In rural areas, three in four (74 per cent) women from the poorest quintile utilized public facilities, whereas for men this proportion was two in four (56 per cent). In the richest income quintile (rural) 26 per cent of men and 33 per cent of women utilized public health facilities. In the richest income quintile (urban) only 16 per cent (men-17 per cent, women-14 per cent) patients utilized the public facility. Interestingly, in the upper two (richest and rich) quintiles in urban areas, utilization of a public facility is higher in men when compared to women, but the pattern is the other way around in all the other economic classes. The utilization of public health facilities in the poorest urban quintile was 3.3 times (men- 2.5, women-3.8) higher when compared to the richest income quintile.

**Table 3: Public Healthcare Utilization Across Different Equity Variables by Gender**

	Public healthcare utilization for inpatient care (hospitalization)			Public healthcare utilization for out-patient care (ambulatory care)		
	Men	Women	Total	Men	Women	Total
<b>Total</b>	<b>36.9</b>	<b>50.0</b>	<b>45.4</b>	<b>24.4</b>	<b>26.5</b>	<b>25.5</b>
<b>Rural-urban divide</b>						
Rural	39.5	56.1	50.4	26.5	29.9	28.3
Urban	32.1	36.8	35.0	20.8	21.5	21.2
<b>Social Group</b>						
ST	55.6	72.6	67.6	45.8	50.0	47.9
SC	48.8	61.3	57.0	30.1	30.6	30.4
OBC	32.3	45.3	40.7	24.6	27.0	25.9
GEN	32.8	42.9	39.1	17.6	20.1	19.0
<b>Economic Class</b>						
<b>Rural</b>						
Poorest	54.9	74.0	68.9	29.8	37.3	33.5
Poor	54.5	64.8	61.7	33.0	32.9	32.9
Middle	41.5	58.7	53.1	26.2	30.1	28.3
Rich	36.5	52.1	46.1	24.3	24.3	24.3
Richest	25.9	33.2	30.2	22.5	28.4	25.8
<b>Urban</b>						
Poorest	43.2	55.6	51.8	29.1	28.0	28.4
Poor	39.6	44.6	42.7	26.5	25.4	25.8
Middle	33.4	34.0	33.8	18.1	24.4	21.7
Rich	25.8	22.6	23.9	19.7	16.7	18.0
Richest	17.1	14.4	15.6	13.1	14.0	13.6

**Outpatient care (ambulatory care):** In India, one fourth (25 per cent) of the total out-patient (OP) care happened in public facilities (Table 3). This proportion was almost the same for men (24.4 per cent) and women (26.5 per cent). Like hospitalization, the proportion of OP care in public facilities was higher in rural (28 per cent) areas compared to urban (21 per cent) areas. Across social groups, utilization of public health facility was highest in ST population (men-46 per cent, women-50 per cent) and lowest in general caste population (men-18 per cent, women-20 per cent). There is a clear trend of higher public facility utilization among lower socio-economic categories. Also, utilization of public health facilities was higher among women than among men across all stratifiers.

When examining income quintiles, the gap between poorest to richest population was not so wide as was the case for hospitalization. In rural areas, utilization of public sector facility in the poorest quintile was 33 per cent (men-30 per cent, women-37 per cent) whereas in the richest quintile it was 26 per cent (men-23 per cent, women-28 per cent). In urban areas, surprisingly, utilization of public facilities among poorest and poor income quintile was marginally higher for men in the bottom two

quintiles. In spite of poverty, two-thirds of OP care for the poorest population happened outside the public facility.

### **Financial protection**

Overall insurance coverage in men and women population was equal in India. This is because of nature of insurance schemes in India, where the unit of enrollment is the household. Overall 15 per cent of India's population reported coverage under any insurance schemes. A majority of those covered by insurance were enrolled in publicly- funded insurance schemes. Across various social groups, insurance coverage was higher in ST/SC population compared to the general population which is a good indication, since the projected aim of the public insurance is to provide financial protection for the most marginalized sections of the society. On the other hand, across income quintiles, and more so in urban areas, insurance coverage was highest for the richest quintile (rural-20.2 per cent, urban: 36.1 per cent) and lowest in poorest quintile (rural-12.1 per cent, urban 9.8 per cent). This distribution of insurance coverage across income quintile was inequitable. This trend was similar for men and women. The insurance coverage in India covers only hospitalization cases and does not provide any financial protection for outpatient care (ambulatory care). The present study looks at out- of -pocket expenditure (OOPE), catastrophic health expenditure (CHE) and impoverishment in hospitalization. All these calculations were done for hospitalization alone since it is covered under insurance coverage.

On an average, Rs. 11,251 was spent out of pocket per hospitalization episode by women whereas men spent 67 per cent higher than this. The OOPE per hospitalization was higher in urban (Rs. 15,478) area compared to rural (Rs. 9292) counterpart. But the proportional difference in OOPE for men against women was higher in the urban area compared to rural area. For instance, in the rural area, OOPE by men was 49 per cent higher than women whereas in the urban area this was 79 per cent.

Across various social groups, OOPE increased from the ST population step-wise, through SC, OBC and the general caste category population. But the differences between men and women varied. For instance, among the ST population men had a 45 per cent higher OOPE compared to women whereas in the OBC and general caste categories the sex-difference was 73 per cent and 60 per cent, respectively.

The difference between men and women in OOPE was higher in rural areas than in urban areas across all income quintiles. For instance, in rural poorest quintile, the OOPE for men was 87 per cent higher than for women whereas among the urban counterparts it was 69 per cent higher for men. The difference in OOPE between men and women decreased from the poorest to the rich quintile. However, it then increased for the richest quintile. For instance, the difference between men and women in OOPE in rural areas decreased from 87 per cent (poorest) to 46 per cent (rich) and then increased to 73 per cent for richest quintile. In urban areas too, the difference in OOPE decreased from 69 per cent (poorest) to 17 per cent (rich) but again increased to 36 per cent for the richest population.

**Table 4: Insurance Coverage and OOP Across Equity Indicators Disaggregated by Sex**

	Insurance coverage		OOP per hospitalization		Proportion of household facing CHE at 10 per cent threshold	Proportion of household facing impoverishment	
	Men	Women	Men	Women		Before OOPE	After OOPE
Total	15.0	15.5	18843 (18196-19490)	11251 (10956-11546)	39.7	27.1	39.9
<b>Rural-urban divide</b>							
Rural	13.7	14.4	16593 (15797-17388)	9292 (8965-9620)	39.0	27.4	40.4
Urban	18.1	17.9	23097 (21995-24199)	15478 (14914-16042)	40.9	26.6	38.8
<b>Social Group</b>							
ST	18.5	19.7	10273 (8915-11631)	7054 (6343-7765)	25.8	42.8	52.3
SC	13.7	14.2	12140 (11350-12931)	7908 (7487-8328)	35.7	35.8	47.7
OBC	15.4	15.7	19290 (18318-20261)	11133 (10664-11602)	41.2	26.3	39.4
GEN	14.3	14.6	23968 (22501-25435)	15000 (14356-15646)	43.6	18.2	31.9
<b>Economic Class</b>							
<b>Rural</b>							
Poorest	10.9	12.1	10666 (9697-11636)	5712 (5249-6176)	36.2	100.0	100.0
Poor	11.2	11.6	11005 (9800-12210)	7326 (6717-7935)	34.4	43.5	76.1
Middle	12.4	12.3	12288 (11354-13223)	7520 (7116-7924)	37.3	0.0	20.3
Rich	16.8	18.1	14253 (13180-15325)	9789 (8721-10856)	38.4	0.0	10.4
Richest	19.4	20.2	26901 (24436-29367)	15486 (14677-16294)	47.1	0.0	5.4

<b>Urban</b>							
Poorest	9.6	9.8	13567 (12360-14775)	8019 (7488-8549)	37.9	100.0	100.0
Poor	12.5	12.5	16856 (15261-18450)	11031 (10380-11683)	39.3	20.2	53.4
Middle	18.9	18.2	20869 (18412-23327)	13624 (12823-14424)	43.6	0.0	10.8
Rich	22.3	24.1	29479 (26230-32727)	25203 (22980-27426)	45.9	0.0	9.4
Richest	36.7	36.1	35930 (32540-39320)	26309 (24003-28615)	38.0	0.0	4.0

CHE-10 and impoverishment were calculated on household basis since the whole household faces financial hardship even if a single member of the household gets hospitalized. In India, out of total hospitalized households, 40 per cent faced CHE-10. This proportion was almost same for rural (39 per cent) and urban (41 per cent) areas. Across various social groups, the proportion of household facing CHE increased as we move from ST (26 per cent) households to general caste category (44 per cent). In rural poorest quintile, 36 per cent household faced CHE-10 whereas in rural richest quintile this figure increases to 47 per cent. Similarly, in urban areas too, 38 per cent of poorest households faced CHE-10 whereas in rich and richest section of the population this proportion increased to 44 per cent and 46 per cent, respectively.

In India, 27 per cent of households who had been hospitalized were below the poverty line even before spending on health. This proportion increased to 40 per cent after expenditure on health. The proportion impoverished was almost the same for rural and urban areas. Between the ST population and the general caste category, the proportion impoverished increased from 22 per cent to 75 per cent. Across various income quintiles, both in rural and urban areas, the proportion impoverished consistently decreased from poorest to richest quintile. Ironically, both in rural and urban areas, all households of the poorest quintile were already living below the poverty line before spending for health (Table 4).

## **Discussion**

The paper mainly explores the access and financial protection aspect of UHC through an equity dimension by analyzing the sex-disaggregated dataset of NSS 71st rounds. Through the gender lens, gender inequities in healthcare in India in context of access and financial protection have been explored in the current study.

### **Access to healthcare and gender**

Hospitalization rate and proportion of the ailing population (PAP) was considered as a proxy indicator of access. Overall, as compared to the 61st NSS rounds (2004), the hospitalization rate in India has increased by 42 per cent in 2014 with the largest share in the increase for the rural women

(Ministry of Statistics and Programme Implementation, 2016). In most states of the country and on an overall basis, the hospitalization rate and PAP were higher for women compared to men. Both gender and sex play an important role in influencing the hospitalization rate and PAP.

Studies across the world show a higher reporting of morbidity in women than among men. The plausible explanation could be: a) a higher burden of chronic conditions in women; b) men tend to suffer more from conditions which have fatal outcome, whereas women suffer from non-fatal conditions, or c) differences in reporting behaviour where women tend to be less stoic about their health and seek care more readily than men (Case & Paxson, 2005). The higher hospitalization rate for conditions other than child delivery and the higher PAP among women in India could be due to one or more of the above reasons.

The higher hospitalization rate among women may also be viewed against the backdrop of the health financing model (government-funded health insurance schemes; demand side) operating in the country to achieve UHC as well the implementation of Janani Suraksha Yojana (JSY) under the National Rural Health Mission (La Forgia & Nagpal, 2012). The effect of JSY cannot be taken into account in this paper since childbirth was not included while calculating hospitalization rate in this paper. With regard to government-funded health insurance, there is growing evidence of irrational drug use and diagnostics which also include unnecessary surgical procedures (Ahmed & Khan, 2010, Handa & Davis, 2006). For instance, a large number of unnecessary hysterectomies was reported in Chhattisgarh among the most vulnerable sections which are under the insurance scheme (Nandi et al., 2016, Nandi, Schneider, & Dixit, 2017). Since hysterectomy costs are among the highest of all procedures under government-funded health insurance schemes, insurance coverage may have been a driving phenomenon (Kurian, 2015). It also shows that in the absence of quality public health systems (supply side) existing in the country, health insurance as the mode of financial protection (demand side) may sometimes lead to unnecessary hospitalization for non-serious illnesses and unnecessary medical procedures (Parkhurst et al., 2005, Schneider & Gilson, 1999).

Macintyre et al., (1996) in their review concluded that “the whole topic of gender differences in health warrants frequent reexamination” where gender differences across one society or time cannot be generalized for another society or time (Macintyre, Hunt, & Sweeting, 1996). In a patriarchal society such as in India, gender-based discrimination is common, and quite often family members ignore the health problems of the women, and the men get the priority in case of any illness event (Fikree & Pasha, 2004). Most often because of the limited financial access and the lack of decision making power among women, it further exacerbates and widens the inequities in accessing health services. Hence this finding of higher hospitalization rate among women should be explored further through in-depth qualitative studies. However, in India’s pursuit towards UHC, there is an important need to ensure universal access because the existing gender inequalities and the power relations between men and women determine who has access and to what services (Ravindran, 2012).

Public health facilities were the major healthcare provider for women and lower socio-economic population during hospitalization. The proportion of women who utilized the public facility for hospitalization was 35 per cent higher than their male counterpart, and this proportion was found greatest among lower socioeconomic category. Among the higher socio-economic group, this difference still persisted. Hence, the public health facilities were the most acceptable,

accessible and equitable health delivery system especially when it comes to women and socio-economically deprived communities. This has also been echoed by many other studies (Marriott, 2009, Sundararaman, Muraleedharan, & Mukhopadhyay, 2016). The present findings indicate the importance of strengthening public health systems in the context of India's quest to achieving UHC.

In ambulatory care, only one fourth (25 per cent) of the population came to a public facility for treatment, but in all social stratifications (rural-urban, caste and economic quintile) the proportion of women in public facility utilization was higher than that of men. However, in the richest quintile of urban areas, public healthcare utilization was higher for men compared to women. Further in-depth qualitative studies are needed to explore this relationship. However, of the population living below poverty line (poorest quintile), 67 per cent of rural and 72 per cent of urban individuals went to a private provider (include informal care too) where OOPE was very high. One of the important areas to reflect for public providers is about the quality of care. Public health facility was found more equitable in nature across all socio-economic groups compared to the private providers.

### **Financial protection and gender**

In our study, insurance coverage for both men and women was equal since in most of the insurance schemes households are the unit of coverage. However, there are studies which show that there is gender dimension in insurance coverage. In many situations where there is a cap on insurance coverage for the household, the healthcare needs of women members of the household are neglected. Also, women members of the household find it considerably more difficult to utilize insurance coverage during hospitalization than do males members (Cerceau, 2012). There is growing evidence showing the ineffectiveness of government-funded insurance schemes in providing financial protection to lower socio-economic groups (Ghosh, 2010, Prinja, Chauhan, Karan, Kaur, & Kumar, 2017).

The OOPE was relatively much higher for men than for women across all socio-economic categories. This is one of the crude indicators of gender-based discrimination in society where households are willing to pay out more to men than to women. Often, women forgo their treatment due to helplessness and lack of financial accessibility which is difficult to capture in this indicator (Sen et al., 2002). Also, the relative sex-difference in OOPE in lower socioeconomic status was higher compared to the higher socioeconomic status population. This indicates that when resources are scarce, vulnerability for women is significantly higher when it comes to access to healthcare. A study by Saikia, Mordhvaj and Bora (2016) also revealed similar findings and pointed out that there is a strong practice of gender discrimination in healthcare spending on women. Though the short-term and major morbidity is higher among women as compared to men, the health care expenditure incurred was significantly lower for women than men (Saikia, Mordhvaj & Bora, 2016). They also observed that significantly lower amount of money is spent on women's health because of the dominant understanding that women's health is not as important as that of men's health and women compromise their own health needs in most instances by prioritizing the health of the male members since they are viewed as the main bread-winners of the household (Saikia, Mordhvaj & Bora, 2016). These findings further reinstate the existence of deep-rooted patriarchal structures in the Indian society. The present study provides empirical evidence for this finding.

Also, the chances of facing catastrophic health expenditure by household increases as the socio-economic status of the household increases. This phenomenon of lower incidence of catastrophic payments among poorer quintiles compared to the richer is seen in many countries (Gotsadze,

Zoidze, & Rukhadze, 2009, Van Doorslaer et al., 2007). This can be explained by the fact that poor people simply do not use health services due to their inability to pay since most of them already live below the poverty line before payment for health expenditure (ibid). The often forgo their treatment due to poverty which leads to a vicious cycle of poverty and ill health. The rich use more services and then suffer adverse financial consequences linked to paying for care.

The study also shows that among the poorest income quintile (both urban & rural areas), the whole population is below the poverty line even before spending on health. Hence, while analyzing CHE, it should be interpreted along with the indicator of service coverage among poor. Another reason for high CHE-10 among the rich could be because most often hospitals (private) charge families to their maximum capacity as well as they differentially charge patients according to their economic status. These instances have been seen in recent times where the private sector charged a family heavily until they expressed their inability to pay (Perappadan & Kumar, 2017).

This study tried to provide empirical evidence to examine UHC from a gender perspective. However, we have provided mainly sex-disaggregated data and have inferred gendered reasons underlying these. The study has a few other limitations. Access and financial protection are multi-dimensional concepts which may not be adequately captured in the given study. To do so may require sophisticated modeling or detailed qualitative study. Catastrophic health expenditure and impoverishment were presented from a household's perspective and had no scope for sex-disaggregation. There were many interesting findings whose explanation was difficult to provide, and it will require further studies. For instance, higher public utilization by men in upper two quintiles of urban areas needs further probing. Regarding the data set also, there were certain precautions which need to be considered. This study was based on self-reporting which could be biased depending on the demographic and background characteristics of the respondents. The NSS-71st rounds also have not collected data among the third gender. Hence, addressing the health inequities among the third gender population is beyond the scope of the current paper. Finally, UHC as a concept is not just about financing healthcare services. There are multiple aspects of UHC which are not discussed in the present paper.

## **Conclusion**

While access in the form of hospitalization rate and PAP was higher for women compared to men in India, OOPE for women was significantly lower than for men. This may be indicative of gender-based discrimination in a society where the family is willing to incur a much larger expenditure for the healthcare of its men, as compared to its women. The proportion of use of public health facilities was higher among women especially from the poor and vulnerable sections of society which shows that government intervention is desirable to make healthcare accessible to women of all socio-economic groups. The paper reiterates the importance of strengthening public healthcare in India's quest for achieving UHC.

### **Competing Interest:**

The authors declare that there is no competing interest.

### **Funding:**

None

### **Author's contribution:**

All authors contributed to study design, interpretation of result and to the writing of the manuscript. AR analyzed the data and AG, and DP verified the results. AR, AG, and DP drafted the first version of the manuscript. All authors read and approved the final version of the manuscript.

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## References

- Aday, A. & Andersen, R. (1974). A framework for the study of access to medical care. *Health Services Research*, 9(3), 208.
- Ahmed, S. & Khan, M. (2010). A maternal health voucher scheme: what have we learned from the demand-side financing scheme in Bangladesh?. *Health Policy and Planning*, 26(1), 25–32.
- Allin, S. & Masseria, C. (2009). Unmet need as an indicator of health care access. *Eurohealth*, 15(3), 7.
- Barros, J., Ronsmans, C., Axelson, H., Loaiza, E., Bertoldi, D., França, V., ... Victora, C. G. (2012). Equity in maternal, newborn, and child health interventions in Countdown to 2015: a retrospective review of survey data from 54 countries. *The Lancet*, 379(9822), 1225–1233.
- Berman, P., Ahuja, R., & Bhandari, L. (2010). The impoverishing effect of healthcare payments in India: new methodology and findings. *Economic and Political Weekly*, 45 (16), 65–71.
- Bisht, R., Pitchforth, E., & Murray, S. F. (2012). Understanding India, globalisation and health care systems: a mapping of research in the social sciences. *Globalization and Health*, 8(1), 32.
- Boerma, T., Eozenou, P., Evans, D., Evans, T., Kieny, M. P., & Wagstaff, A. (2014). Monitoring progress towards universal health coverage at country and global levels. *PLoS Medicine*, 11(9), e1001731. <https://doi.org/10.1371/journal.pmed.1001731>
- Case, A. & Paxson, C. (2005). Sex differences in morbidity and mortality. *Demography*, 42(2), 189–214.
- Cerceau, S. (2012). Gender equality in access to health care: The role of social health protection. *A Case Study on India's National Health Insurance Scheme RSBY. Bonn, Germany: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.*
- Fikree, F. & Pasha, O. (2004). Role of gender in health disparity: the South Asian context. *BMJ: British Medical Journal*, 328(7443), 823.
- Fortis hospital Gurugram Rs 16 lakh bill case: After girl dies of dengue, father says hospital offered Rs 25 lakh to settle matter. (2017, December 7). Retrieved December 9, 2017, from <http://www.financialexpress.com/india-news/fortis-hospital-gurgaon-rs-16-lakh-bill-girl-dies-dengue-father-says-hospital-offered-rs-25-lakh-to-settle-matter/964513/>
- Ghosh, S. (2010). Catastrophic payments and Impoverishment due to Out-of-Pocket health spending: The effects of recent health sector reforms in India. *Asia Health Policy Program Working Paper*; (15). Retrieved from [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1658573](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1658573)
- Gotsadze, G., Zoidze, A., & Rukhadze, N. (2009). Household catastrophic health expenditure: evidence from Georgia and its policy implications. *BMC Health Services Research*, 9(1), 69.
- Gwatkin, D. (2002). Who would gain most from efforts to reach the Millennium Development Goals for health: An Inquiry in to the possibility of progress that fails to reach the poor. Health and Nutrition Discussion Paper, December, *World Bank*, Washington, D C
- Handa, S. & Davis, B. (2006). The experience of conditional cash transfers in Latin America and the Caribbean. *Development Policy Review*, 24(5), 513–536.
- Houweling, A., Ronsmans, C., Campbell, O. M., & Kunst, A. E. (2007). Huge poor-rich inequalities in maternity care: an international comparative study of maternity and child care in developing countries. *Bulletin of the World Health Organization*, 85(10), 745–754.
- Kurian, O. (2015). *Financing healthcare for all in India: Towards a common goal*. Oxfam India.
- La Forgia, G. & Nagpal, S. (2012). *Government-sponsored health insurance in India: Are you covered?* World Bank Publications. Retrieved from <https://books.google.co.in/books?hl=en&lr=&id=f76cvBYlj5IC&oi=fnd&pg=PR5&dq=Government-Sponsored+Health+Insurance+in+India&ots=NPGqe-jueC&sig=-mqp-awqRw0gj041fy4Vws271iw>
- Larson, E., George, A., Morgan, R., & Poteat, T. (2016). 10 Best resources on... intersectionality with an emphasis on low-and middle-income countries. *Health Policy and Planning*, 31(8), 964–969.
- Limwattananon, S., Tangcharoensathien, V., & Prakongsai, P. (2007). Catastrophic and poverty impacts of health payments: results from national household surveys in Thailand. *Bulletin of the World Health Organization*, 85(8), 600–606.
- Macintyre, S., Hunt, K., & Sweeting, H. (1996). Gender differences in health: are things really as simple as they seem? *Social Science and Medicine*, 42(4), 617–624.

- Mamgain, R. (2014). Social exclusion, discrimination and atrocities on scheduled castes in India: the worrying spots and future challenges. *Journal of Economic and Social Development* X(1),17-30. Retrieved December 8, 2017, from <http://iesd.org.in/jesd/Journal%20pdf/2014-X-1%20Social%20Exclusion.pdf>
- Marriott, A. (2009). Blind Optimism: Challenging the myths about private health care in poor countries. *Oxfam Policy and Practice: Private Sector*, 6(1), 1–55.
- Ministry of Statistics and Programme Implementation. (2016). *Health in India, NSS 71st Round* (No. 574 (71/25.0)) (p. A-159). Retrieved from [http://mospi.nic.in/sites/default/files/publication\\_reports/nss\\_rep574.pdf](http://mospi.nic.in/sites/default/files/publication_reports/nss_rep574.pdf)
- Molina, H., Nakamura, K., Kizuki, M., & Seino, K. (2013). Reduction in inequality in antenatal-care use and persistence of inequality in skilled birth attendance in the Philippines from 1993 to 2008. *BMJ Open*, 3(6), e002507.
- Morgan, R., George, A., Ssali, S., Hawkins, K., Molyneux, S., & Theobald, S. (2016). How to do (or not to do)... gender analysis in health systems research. *Health Policy and Planning*, 31(8), 1069–1078.
- Nandi, S., Dasgupta, R., Garg, S., Sinha, D., Sahu, S., & Mahobe, R. (2016). Uncovering Coverage: Utilisation of the Universal Health Insurance Scheme, Chhattisgarh by Women in Slums of Raipur. *Indian Journal of Gender Studies*, 23(1), 43–68. <https://doi.org/10.1177/09715215151612863>
- Nandi, S., Schneider, H., & Dixit, P. (2017). Hospital utilization and out of pocket expenditure in public and private sectors under the universal government health insurance scheme in Chhattisgarh State, India: Lessons for universal health coverage. *PloS One*, 12(11), e0187904. <https://doi.org/10.1371/journal.pone.0187904>
- Parkhurst, J., Penn-Kekana, L., Blaauw, D., Balabanova, D., Danishevski, K., Rahman, S. A., ... Ssengooba, F. (2005). Health systems factors influencing maternal health services: a four-country comparison. *Health Policy*, 73(2), 127–138.
- Perappadan, B. S. & Kumar, A. (2017, November 21). Family alleges Gurugram hospital charged ₹18 lakh for dengue treatment. *The Hindu*. Retrieved from <http://www.thehindu.com/news/cities/Delhi/family-alleges-gurugram-hospital-charged-18-lakh-for-dengue-treatment-nadda-seeks-details/article20609551.ece>
- Planning Commission. (2014). Report of the expert group to review the methodology for measurement of poverty. *Government of India, New Delhi*.
- Prinja, S., Chauhan, A., Karan, A., Kaur, G., & Kumar, R. (2017). Impact of Publicly Financed Health Insurance Schemes on Healthcare Utilization and Financial Risk Protection in India: A Systematic Review. *PloS One*, 12(2), e0170996.
- Prinja, S., Kanavos, P., & Kumar, R. (2012). Health care inequities in north India: role of public sector in universalizing health care. *The Indian Journal of Medical Research*, 136(3), 421.
- Raj, A., Saggurthi, N., Balaiah, D., & Silverman, J. G. (2009). Prevalence of child marriage and its effect on fertility and fertility-control outcomes of young women in India: a cross-sectional, observational study. *The Lancet*, 373(9678), 1883–1889.
- Ravindran, S. (2012). Universal access: making health systems work for women. *BMC Public Health*, 12(1), S4.
- Saikia, N., Moradhvaj & Bora, J. K. (2016). Gender Difference in Health-Care Expenditure: Evidence from India Human Development Survey. *PloS One*, 11(7), e0158332.
- Schneider, H. & Gilson, L. (1999). The impact of free maternal health care in South Africa.
- Sen, G., George, A., & Ostlin, P. (2002). *Engendering International Health: The Challenge of Equity*, The MIT Press Cambridge.
- Sen, G., Iyer, A., & George, A. (2002). Structural reforms and health equity: a comparison of NSS surveys, 1986-87 and 1995-96. *Economic and Political Weekly*, 1342–1352.
- Sundararaman, T., Mukhopadhyay, I., & Muraleedharan, V. R. (2016). No Respite for Public Health. *Economic and Political Weekly*, 51(16), 39.
- Sundararaman, T., Muraleedharan, V. R., & Mukhopadhyay, I. (2016). NSSO 71st Round Data on Health and Beyond. *Economic and Political Weekly*, 51(3), 85.
- United Nations. (2006). Reducing Vulnerability of the Girl Child in Poor Rural Areas. Activities of the International Fund for Agricultural Development. Retrieved from <https://www.un.org/womenwatch/daw/egm/elim-disc-viol-girlchild/ObserverPapers/IFAD%20-%20Hartl.pdf>
- United Nations. (2009). *Women's Control over Economic Resources and Access to Financial Resources, Including Microfinance: 2009 World Survey on the Role of Women in Development*. United Nations Publications.
- United Nations. (2013). New Global Partnership: Eradicate Poverty and Transform Economies Through Sustainable Development: The Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda. *United Nations, New York*.

- Van Doorslaer, E., O'Donnell, O., Rannan-Eliya, R. P., Somanathan, A., Adhikari, S. R., Garg, C. C.,... Zhao, Y. (2007). Catastrophic payments for health care in Asia. *Health Economics*, 16(11), 1159–1184.
- Vega, J. (2013). Universal health coverage: the post-2015 development agenda. *The Lancet*, 381(9862), 179–180.
- Witter, S., Govender, V., Ravindran, T. K., & Yates, R. (2017). Minding the gaps: health financing, universal health coverage and gender. *Health Policy and Planning*, 32 (5) v4-v12.
- World Health Organization. (2009). *Women and health: today's evidence tomorrow's agenda*. WHO, Geneva.
- World Health Organization. (2010a). Improving health system efficiency as a means of moving towards universal coverage. *World Health Report*.
- World Health Organization. (2010b). World Health Report, 2010: health systems financing the path to universal coverage. WHO, Geneva.
- World Health Organization. (2011). *Women and health in the Western Pacific Region: remaining challenges and new opportunities*. Manila: WHO Regional Office for the Western Pacific, WHO, Geneva.
- World Health Organization. (2015). *Tracking universal health coverage: first global monitoring report*. WHO. Retrieved from <http://apps.who.int/iris/handle/10665/174536>
- World Economic Forum. (2017). The Global Gender Gap Report 2017. Retrieved December 8, 2017, from <https://www.weforum.org/reports/the-global-gender-gap-report-2017>