

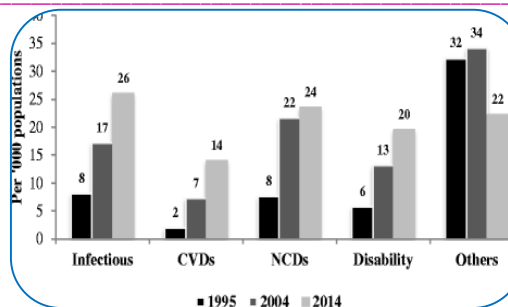


## SELF-REPORTING AILMENT MORBIDITY IN INDIA: NSSO SURVEY

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### ABSTRACT:

In India healthcare sector goes through many changes over a period of time. In last one decade government introduced many policy initiatives in the healthcare sector such as NRHM, RSBY etc. These policy initiatives have significant impact on the overall healthcare sector. NSSO conducted a nation's wide survey to map these changes. This paper analyses NSSO 60<sup>th</sup> round and 71<sup>st</sup> round data to see the changes in level of morbidity and trends in ailment reporting behavior of healthcare seeker during this time period. The decade from 2004 to 2014 brings many changes in ailment reporting behavior among inpatient as well as outpatient healthcare seeker. In 2008, launch of RSBY has increased inpatient hospitalization but this remain a cause of concern due to inefficient healthcare infrastructure in healthcare services utilization in our nation. In India, prevalence rate of morbidity reported 89 and 118 in rural and urban respectively. There is gender inequality in incidence of ailments reported morbidity and it was visible as the reported morbidity prevalence rate was more in females (99 rural and 135 urban per thousand populations) than in male counterpart (80 rural and 101 urban per thousand). The occurrence of morbidity was higher among lower age group (0-4) and in the higher age group (above 60) which displaying U shaped relationship over a period of time. But in the age group up to 24 years it declining and henceforth it starts increasing. This paper tries to find out the trends in reporting of morbidity among different socio-economic background persons over a period of time.

**KEYWORDS:** Healthcare, Morbidity, Out of Pocket expenditure.

### INTRODUCTION

Indian economy grows at impressive pace during last one decade or more. This impressive growth rate of 7 percentages to 8 percentages has brings an opportunity for the government to expand its spending on much needed healthcare sector in the country which has been neglected so far. Therefore, government has made major policy initiative in the healthcare sector in recent time. There are new schemes announced by central as well as states government such as RSBY, NHRM, and JSY etc. These policy initiatives were introduced to keeping in mind the demand side as well supply side constrained facing healthcare sector in our country. But, India still faces world criticism for not increasing spending on healthcare sector and not improving its health outcomes. Being a second largest populated economy India's progress towards improving health outcomes without any financial hardship is very crucial to the world. Different practices and different cultural beliefs have significantly impacted choice of seeking healthcare in India. The increasing growth of Non Communicable disease causes to half of the all deaths in India. (GOI, 2011). An estimated 38.5 million deaths out of 68 million total deaths occurred globally was due to NCDs (Global Health Observatory Report, 2012). There is higher occurrence of communicable and non communicable disease in recent time in our nation. The

poor healthcare service quality and insufficient healthcare infrastructure is overburdened by increasing communicable and non-communicable disease. There are many studies which supported the fact that these diseases occurred due to mostly changing preferences of food habits pattern, poor quality of water supply, increase in slum population, poverty and polluted environment etc. (Omran 1971, Murray 1991). However, risk of such disease on different socio-economic factors is less known which hold significance impact on better policy formation. To understand the health status of a country the morbidity pattern of the population is believed to be a good measure. Self-reported morbidity measures are directly related to health status of any population. However, there is limited studied explored trends and pattern of self reported morbidity while using national level survey data. The recent population survey also does not give much information about pattern of morbidity prevalence in India. This paper makes an attempt to see pattern of morbidity among different stakeholder such as rural-urban, male-female and different age group during the last one decade. The NSSO data surveyed in 2004 and 2014 is make it possible to compare morbidity trends over this period of time. This will be helpful for us to understand the outcomes of government initiatives on morbidity and healthcare seeking behavior.

### LITERATURE REVIEW

Paul and Singh (2017) analyzed self reported morbidity patterns and trends in Indian states using three previous NSSO rounds data. It has been found that self reported morbidity increased among female and elderly in urban locality. Communicable disease and non communicable has been on growing side over a period of time. Kerala reported high prevalence of self reported morbidities and followed by other southern and southern eastern states Tamil Nadu, Andhra Pardesh, West Bengal and Punjab in all previous three NSSO rounds. While on the other hand poor states as well as north eastern states reported low level of prevalence of self reported morbidity.

Singh and Kalaskar (2017) conducted a study on health seeking behavior in urban slum of Mumbai in India. The finding revealed that choice of healthcare service utilization depends on cost and quality of service. This study also supported those other factors such as distance from house; convenient timing and behavior of staff closely impact healthcare seeking behavior. There are other socio economic factors such as educational status, economical condition which also have an impact on healthcare seeking behavior.

Ravi et al (2016) studied healthcare seeking behavior among inpatient and outpatient healthcare seeker. The results show that most of people still depend on private healthcare services for treatment. It is 75 percent for outpatient treatment and 55 percent for inpatient treatment. Further, result shows that this trend is decreasing. For inpatient treatment it is 6 percent on the other hand outpatient treatment shows 7 percent dependence on public health care rises over a period of time.

S. Gopalkrishnan et.al. (2015) studied morbidity profile of rural people of Tamil Nadu through a cross sectional study of different socio-economic background people. The study put forth that there is high prevalence of self reported morbidity among the adults and 5 to 15 age group children than lower age group (0-5 age) and higher age group (50 and above age group). In the comparison of women and men former reported high level of morbidity than the later but prevalence of morbidity higher among later. The study also confirms that there is positive relationship between rises in the levels of disease with higher age group. There is chronic ailment for older age person but among children it is acute disease prevalent mostly.

### OBJECTIVES

The paper try to assess the morbidity reporting pattern in Healthcare sector and further attempt to find out the changes in ailment reporting behavior among inter-sates in India by using the NSSO data.

### DATA AND METHODOLOGY

The national sample survey organization (NSSO) in its 60<sup>th</sup> and 71<sup>st</sup> round between January to June in 2004 and 2014 conducted survey on healthcare and morbidity. The two stage Stratified

sampling technique for the collection of sample in rural and urban from selected sample households has been applied. This paper has been using this data for the analysis pattern of morbidity in India. These survey collected information of non institutional ailing person for last 15 days and for the institutional or hospitalized patient for the last 365 days. There is 65,932 households surveyed out of which 36,480 in rural and 29,452 in urban whereas in the 60<sup>th</sup> round there was 73,868 households surveyed out of which 47,302 were from rural and 26,566 were from urban. Information collected in these rounds were based on the respondents own assessment of the health status of individual without any medical examination. All the information gathered by individual surveyor personally from all the adult members of the households. An ailment such as injury and illness defined in health science as a deviation from the mental and physical well being of individual. If a person has been admitted to a hospital during last 365 days is considered as an inpatient and if he uses healthcare services for check up and only taking medicine he is considered as outpatient. These data collected throughout the year so these data were free from any type of seasonal variation in health and morbidity. Both types of data on institutional and non institutional morbidity have been used separately for the analysis purposes. In this paper morbidity on the basis of last 15 days prior to survey has been used for analysis purposes. Morbidity = any type of ailment reported by number of person during the last 15 days preceding to survey\*1000 / Sum of overall population in the sample

## RESULTS AND INTERPRETATIONS

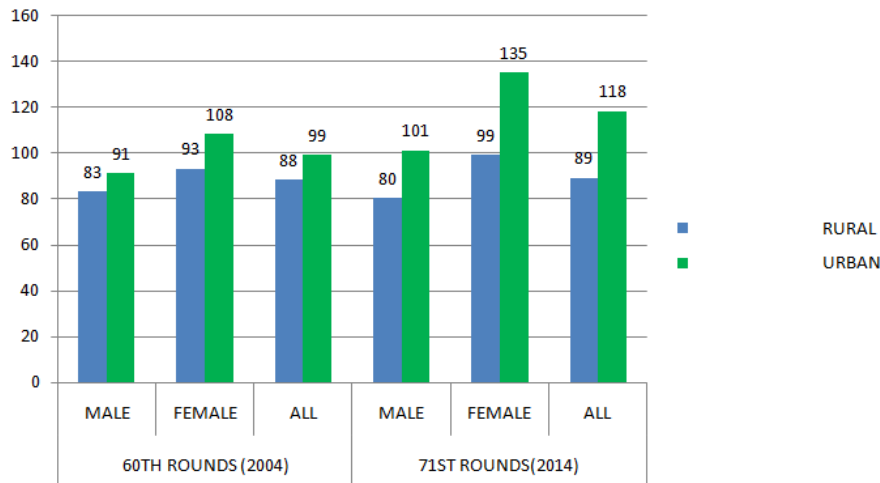
The prevalence rate of ailment reporting morbidity measured on the basis of the information collected from household on the basis of a person in household suffer any ailment during last 15 days prior to survey. In India, prevalence rate of morbidity reported 89 and 118 in rural and urban respectively. There is gender inequality in incidence of ailments reported morbidity and it was visible as the reported morbidity prevalence rate was more in females (99 rural and 135 urban per thousand populations) than in male counterpart (80 rural and 101 urban per thousand). The occurrence of morbidity was higher among lower age group (0-4) and in the higher age group (above 60) which displaying U shaped relationship over a period of time. But in the age group up to 24 years it declining and henceforth it starts increasing. There is high significance association between economically well of person to self reported morbidity. According to, monthly per capita consumption quintile, high consumption quintile group reported (131) more than double compared to low consumption quintile group (65 per thousand) in monthly per capita consumption quintile group. If we look at class wise self reporting pattern of morbidity ST reported the lowest among the all classes participated in the survey. It might be due to low awareness level of these native groups about healthcare services etc. Across the family level small families experienced larger morbidity than larger families.

**Table: 1**  
**Proportion of ailing person (per 1,000) of ailing person during**  
**Last 15 days: Rural and Urban** (In Percent)

Gender	PAP in NSS round	
	60 <sup>th</sup> round (2004)	71 <sup>st</sup> round (2014)
	<b>Rural</b>	
Male	83	80
Female	93	99
All	88	89
	<b>Urban</b>	
Male	91	101
Female	108	135
All	99	118

Sources: NSSO rounds 60<sup>th</sup> and 71<sup>st</sup>

**Figure (a)**  
**Percentage proportion of people reported morbidity in India**



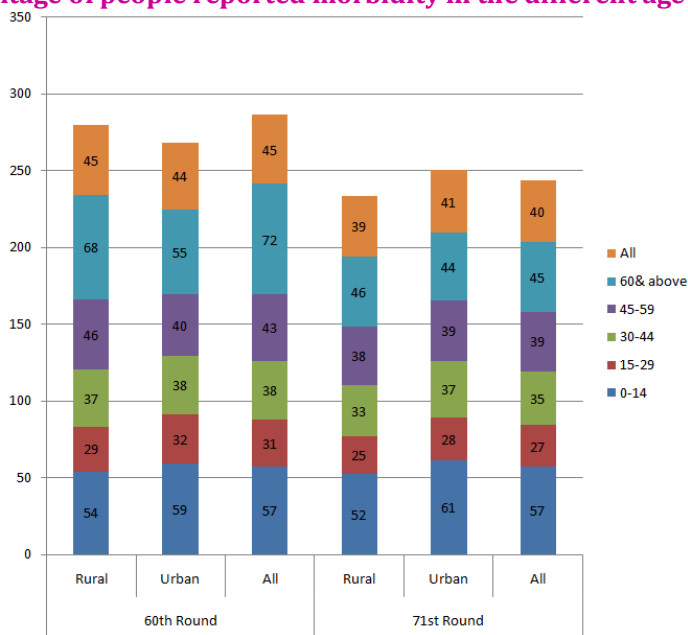
In the above figure (a) Proportion of ailing person during period of last decade shows decreasing trends for male in rural area while there has been a steady increase in morbidity rate in rural female. On the other hand, there is rise in overall reported morbidity pattern among rural households. Urban trends show overall increase in self reported morbidity. There is increase in level of morbidity both rural and urban area. Urban area reported high level of morbidity due to higher level of education, accessibility of healthcare services, high level of economic status etc (NSSO, 2014). Female reported high level of morbidity both in rural as well urban area which shows there is high prevalence of morbidity in female than to a male.

**Table: 2** (In Percent)

Age Group	60 <sup>th</sup> Round			71 <sup>st</sup> Round		
	Rural	Urban	All	Rural	Urban	All
0-14	54	59	57	52	61	57
15-29	29	32	31	25	28	27
30-44	37	38	38	33	37	35
45-59	46	40	43	38	39	39
60& above	68	55	72	46	44	45
All	45	44	45	39	41	40

Source: NSSO rounds 60<sup>th</sup> and 71<sup>st</sup>

**Figure (b)**  
**Percentage of people reported morbidity in the different age group**



Above figure (b) shows proportion of person reporting start of any ailment (PPC) during last 15 days by age-group in rural and urban area in the 60<sup>th</sup> and 71<sup>st</sup> round of NSSO. It can be understood that proportion of commencement of ailment is different for incident rate of reporting the ailment. In health statistics report expert commission of the WHO defined incidence rate measure frequency of illness commencing during a reference period, PPC gives estimate of proportion of person reporting beginning of any ailment. Overall commencement of new cases of ailment shows decreasing trends but the rate of decline is seems to higher in rural area. There is higher commencement of illness among lower age-group and higher age-group both in rural as well as urban settlement. The acute ailments are accountable for high morbidity prevalence among the lower age group children and the chronic ailments have caused the rise in morbidity prevalence among the higher age group or elderly. Age-group of 15-29 year reported lowest PPC in rural and urban in both round of survey. This is due to younger age associated with lower level of ailment. These results indicate that there is need to more work on policy related to especially child and aged person in India. Although declining trends indicate that much progress towards has been made in recent years.

**INTER- STATE VARIATION IN MORBIDITY LEVEL**

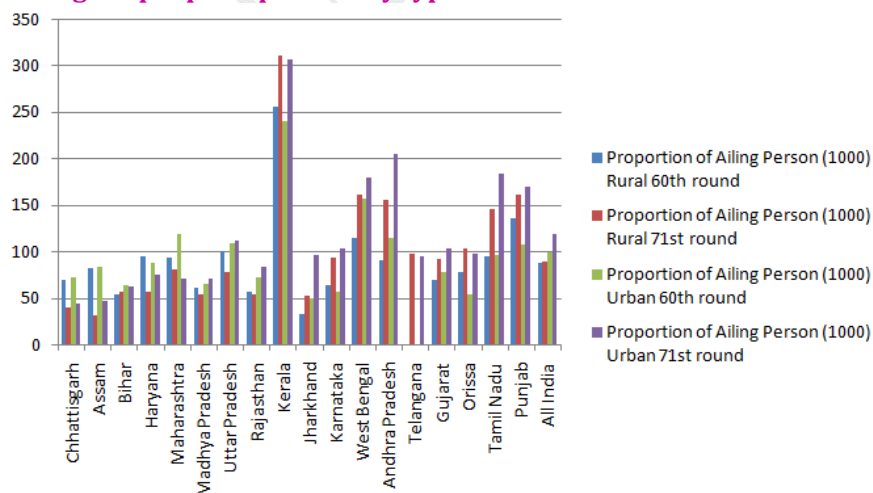
The predictable data (per 1000) for ailing persons who reported of any type of ailment in the 18 key states is presented in table below. There are large inter-state variations in PAP reporting in both urban and rural areas of these states. The level of ailment reporting morbidity for rural areas, measured in terms of PAP, wide-ranging from 255 in Kerala to 33 in Jharkhand (NSSO, 2004). Comparatively, the gap in the ailment reporting morbidity of urban areas were less obvious with PAP reported in range of 240 in Kerala to 50 in Jharkhand .It is, however, seen that the states with relatively high morbidity reporting in urban areas, also showed high tendency in morbidity reporting in rural areas as well. In fact, for both urban and rural areas, the states of Bihar, Jharkhand, Madhya Pradesh and Rajasthan were with low levels of morbidity reporting and Kerala, West Bengal and Punjab showed high level of ailment reporting morbidity.

**Table No. 3**  
**Proportion of Ailing person in selected states for rural and urban**  
**(In Percent)**

States	Proportion of Ailing Person (1000)			
	Rural		Urban	
	60 <sup>th</sup> round	71 <sup>st</sup> round	60 <sup>th</sup> round	71 <sup>st</sup> round
Chhattisgarh	69	40	72	44
Assam	82	31	83	47
Bihar	53	57	63	62
Haryana	95	56	87	75
Maharashtra	93	80	118	70
Madhya Pradesh	61	53	65	71
Uttar Pradesh	100	77	108	111
Rajasthan	57	54	72	83
Kerala	255	310	240	306
Jharkhand	33	52	50	96
Karnataka	64	93	57	103
West Bengal	114	161	157	179
Andhra Pradesh	90	155	114	204
Telangana	@	97	-	95
Gujarat	69	92	78	103
Orissa	77	103	54	97
Tamil Nadu	95	146	96	184
Punjab	136	161	107	170
All India	88	89	99	118

Source: NSSO rounds 60<sup>th</sup> and 71<sup>st</sup>

**Figure (c)**  
**Percentage of people reported any type of ailment across the states in India**



Above diagram(c) shows that there is huge inter-state variation in reported proportion of ailing person. It can be seen the states of Kerala, West Bengal, Punjab, Uttar Pradesh and Andhra Pradesh have reported moderately higher prevalence of the self reported morbidity for both rural and urban area. The states where the reported rates of morbidity prevalence are relatively lower are Jharkhand, Assam

Bihar, Rajasthan, Madhya Pradesh and Karnataka. Although, this is not likely to establish any association between levels of socio-economic development and the prevalence of morbidity by looking at the levels and differentials of morbidity prevalence rate between states. Conversely to the expectation, it is believed that states like Kerala, Punjab and West Bengal known for their achievements in improving social and economic conditions have recorded the highest morbidity prevalence in the country. On the other hand, the socio economically poorer states like Bihar, Madhya Pradesh and Rajasthan have reported the lowest level of morbidity rates. There are various study which suggested number of different reason for these variation in morbidity reporting pattern such as inequity in access and use of healthcare services, intra-difference and inter-differences in income of the people, Difference in disease profile of state, difference in socioeconomic background of people in each states and differences in the level of health related awareness among masses etc.

## CONCLUSION

This study tries to capture morbidity pattern in India on the basis of secondary data from NSSO. There have been many initiatives taken by the Govt. to improve healthcare sector. This resulted in some improvement in few health indicators over period of time but overall health condition of population going to be worse as a consequence of very high intensity of reported morbidity occurrence with significant inter-state inequality in morbidity prevalence and incidence rate. Though, socially, demographically advanced states like West Bengal, Kerala, and Punjab have better health outcomes with higher level of reported morbidity prevalence rate. On the opposite side socio-economic backward states shows lower level of reported morbidity. The analyses clearly point towards the key determinants of ill health in India lies in social, economic and demographic characteristics of the states. There is large gender inequity in male and female morbidity reported prevalence rate in India. This is not consistent with the result of earlier studied conducted using NSSO earlier rounds. This means that the latest round of NSSO round present good picture of women morbidity prevalence rate than previous round. Generally, it is believed that prevalence rate of illness increase with age of person. The occurrence of morbidity was higher among lower age group (0-4) and in the higher age group (above 60) which displaying U shaped relationship over a period of time. But in the age group up to 24 years it declining and henceforth it starts increasing. The high prevalence rate of acute and chronic illness among the lower aged and higher aged population points to the need of hour for the special targeting of healthcare services for these groups of population in India. Socially backward and excluded people reported lower level of morbidity than other social groups mainly due to lower level of awareness, increasing cost of healthcare treatment etc. There is an interesting phenomena observed that poor people reported lower level of morbidity than better off people largely due to underreporting of morbidity by lower income group. On the other side better off people facing a problem of life style related chronic and non communicable diseases. All this put the additional pressure of disease burden on healthcare infrastructure in India. Rural and Urban disparity in reporting morbidity also aggravate this diseases pattern in India. Poor health condition of rural people compare to urban also consequence of multiple factors. It is a need of hour to increase healthcare budget spending which is vary essential to target the populations with very different pattern of disease profile and health care access. There is also need to utilize these morbidity data at comprehensively to provide supply side support to masses. There is needed to make use of technology at grass root level to make effective penetration of healthcare services to all.

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