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# Importance of Proximity to Outpatient Care Facilities in Rural India

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Abstract

*The paper illustrates the additional travel and associated burden while accessing outpatient care services in Rural India. Analysis based on the 75th round of National Sample Survey (2017-18) on 'Health Care Consumption', showed that only 54 per cent people in rural India were able to avail outpatient care within their locality in comparison with 94 per cent in urban India. The need to travel outside their rural locality is lowest for those seeking care from private clinic/doctor (62%), followed by those seeking government facilities (56%). The utilization of outpatient services from their localities were more for non-chronic ailments (62%) than for chronic ailments (46%). Those seeking health care outside their locality reported higher out of pocket expenditure and had higher loss in household income due to outpatient treatment. Results indicate the achievement of the long-standing goals set for establishing adequately staffed PHCs and CHCs in rural areas and a provision to provide incentives to set up health facilities in remote rural areas is essential to ensure equitable access to basic health care in here. Since the establishment of specialized care in all the rural areas is financially not viable, the solution suggested here is to compensate the rural population for travel and other related costs.*

Keywords: Health care consumption, outpatient care, India, NSS.

## I. Introduction

There is a shortage of basic health care facilities in many parts of rural India. Inadequate physical access to health care services is seen as a key challenge in promoting equity in provisioning of health care services in India (Balarajan et al., 2011). The concentration of health care infrastructure and manpower in urban areas has limited the physical access to health care among the rural population, who despite having poor transport and communication facilities, has to face the additional distance, money and time while seeking medical care. National data shows that the women from rural India consider lack of health provider (49%), distance to facility (37%) and not having a transport to reach facility (34%) as barriers while accessing medical advice or treatment for themselves when they are sick (IIPS and ICF, 2017). Ailments treated without medical advice were 12 per cent in rural India when compared with seven per cent in urban India (NSO, 2019). Among them 'no medical facility available' in neighbourhood was reported as a reason by nine per cent in rural areas against one per cent in urban areas. Proportion falling below poverty line due to out-of-pocket expenditure incurred while seeking health care is found to be more in rural areas than in urban areas (Garg & Karan, 2009; Kumar et al., 2015). Hence, the ailing person from rural India is at a higher risk of foregoing treatment as well as impoverishment due to treatment of illness.

India is yet to attain its national norm for rural areas to establish a primary health centre (PHC) per 30,000 population and community health centre (CHC) per 1,20,000 population. The shortfall of government owned PHCs or Health and Wellness Centres (HWCs) and CHCs in Rural India is estimated be 28 per cent and 38 per cent respectively (MOHFW, 2019). Establishment of government facility may not always ensure access to health services as about 10 per cent of PHCs function

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without doctors and nine per cent of health sub-centres function without female health workers. The other option for rural population is to go to private health care facilities, which are the predominant source of health care in the country. The health infrastructure in for-profit private sector too was set up in well-established locations leading to clustering of facilities, especially in urban areas (Bhat, 1999).

The scarcity of health care facilities is interrelated with the shortage of health work force in rural areas. Previous research has already brought out the rural-urban, state-wise and inter-district inequities in health workforce across India (Costa & Diwan, 2007; Hazarika, 2013; Anand & Fan, 2013; Rao et al 2016). Though the country achieved WHO recommended doctor to population ratio of 1:1,000, in the year 2018 (Kumar & Pal, 2018), rural India continued to be much behind this recommended ratio due to urban bias in the distribution of health manpower and infrastructure. No attempt has been made so far to understand the proximity to ambulatory care services in rural India and hence this paper explores the nature of additional mobility/travel required for accessing outpatient care services. The analysis is restricted to outpatient care services due to understandable limits in cost-effectiveness to provide inpatient care in every rural locality.

## II. Data and methods

The study is based on nationally representative data from the 75$^{th}$ round (2017-18) of household survey data on 'Health Care Consumption' released by National Statistical Office, Ministry of Statistics and Programme Implementation, Government of India. The Survey covered 64,552 rural households with 3,25,883 members and 49,271 urban households with 2,29,232 members (NSO, 2019). Particulars of spells of ailments of household members during the last 15 days prior to survey date were available from this survey. This mainly includes: if any member was ill in the last 15 days prior to survey date, type of ailment, nature of treatment, details of medical services received, expenses incurred, location of health facility, etc. Observations where hospitalization was required for treatment of ailments in the last 15 days, self-reported ailments where medical advice was not sought and ailments for which treatment was taken from informal providers were excluded from this analysis.

Information on place of treatment was available for 37,485 cases (18,776 rural and 18,709 urban) where outpatient treatment was availed in the last 15 days prior to the Survey. The questionnaire used the following categories to understand the place of treatment: (1) same district (rural area), (2) same district (urban area), (3) within state different district (rural area), (4) within state different district (urban area), and (5) other state. For this analysis, a respondent from the rural area was considered to have taken outpatient treatment 'within place of residence' if the place of treatment was within the same district and those reporting other place of treatment were considered as seeking care outside their 'place of residence'. Similarly, a respondent from an urban area was considered to have taken outpatient treatment 'within place of residence' if the place of treatment was within an urban area of the same district. Analysis was done for respondents from rural areas where physical access to health facilities were limited in comparison with those from urban areas.

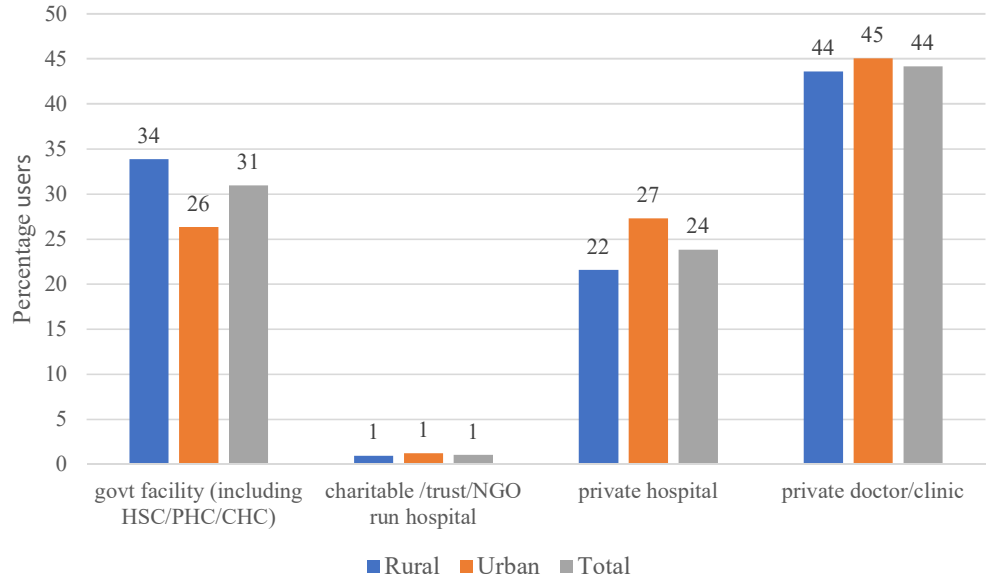
Differentials in proportion traveling outside the place of residence to avail outpatient care by age and sex of the ailing person seeking care, source for outpatient care, acute/chronic ailment and socio-economic status of the person seeking care were examined. The inter-state variations were explored as in the Indian federal system the key functions related to the delivery of health care services come under the purview of the State Governments. Exploratory analysis of burden arising out of additional travel to seek outpatient treatment on related household out of pocket expenses and on average loss of household income due to treatment was also performed. Visits to health facility could involve time and wage loss to patients or/and person accompanying the ailing persons for treatment. The survey collected information on loss in household income due to the treatment of illness (in INR) during the 15-day reference period. This was used to obtain the proportion of outpatient treatment cases incurring loss of household income due to treatment and the corresponding average loss in household income per episode of treatment.

## III. Results

*Source for outpatient treatment*

In India, 44 per cent of outpatient care was provided by clinics/doctors in the private health care sector and another 24 per cent care was provided by the outpatient care units within the private hospitals (Figure 1). Government facilities comprising of health sub-centre, PHC, CHC and government hospitals were utilized by 31 per cent for outpatient treatment. The percentage using government facilities was higher in rural areas (34 per cent) than in urban areas (26 per cent).

Figure 1:Type of health facility for outpatient care by place of residence, India 2017-18




*Place of outpatient treatment*

A vast majority of urban population (94%) availed outpatient care within its place of residence in comparison with only 54 per cent among its rural counterpart (Figure 2), which is an indication of the rural-urban divide in physical access to outpatient care services. About 41 per cent of the rural population requiring outpatient treatment had to travel to urban areas within their district to seek care. Another five per cent had to travel outside their district to seek outpatient care, where a majority is likely to be the population residing in border areas of a particular district which makes use of the better proximity to neighbouring districts if health facilities are not available in their locality.

*Travel burden by type of health provider*

The distribution of users of different types of health facilities in rural areas by location of health facility portrays the proximity level of facilities (Table 1). A majority of the private doctors/clinic users (62%) reported that the facility that they utilized was located within their place of residence, while the same was 56 per cent among those utilizing government facility. Only one third of the private hospital users reported that the facility was within their usual place of residence. As high as 57 per cent of private hospital users had to travel to urban areas within the district and the remaining 10 per cent had to make inter-district travel which corroborates existing evidence of urban bias in the setting up of hospitals. Though the proportion seeking outpatient care from the clinics owned by charitable institutions/NGOs was limited (1%), a majority of its users/beneficiaries was from the same locality.

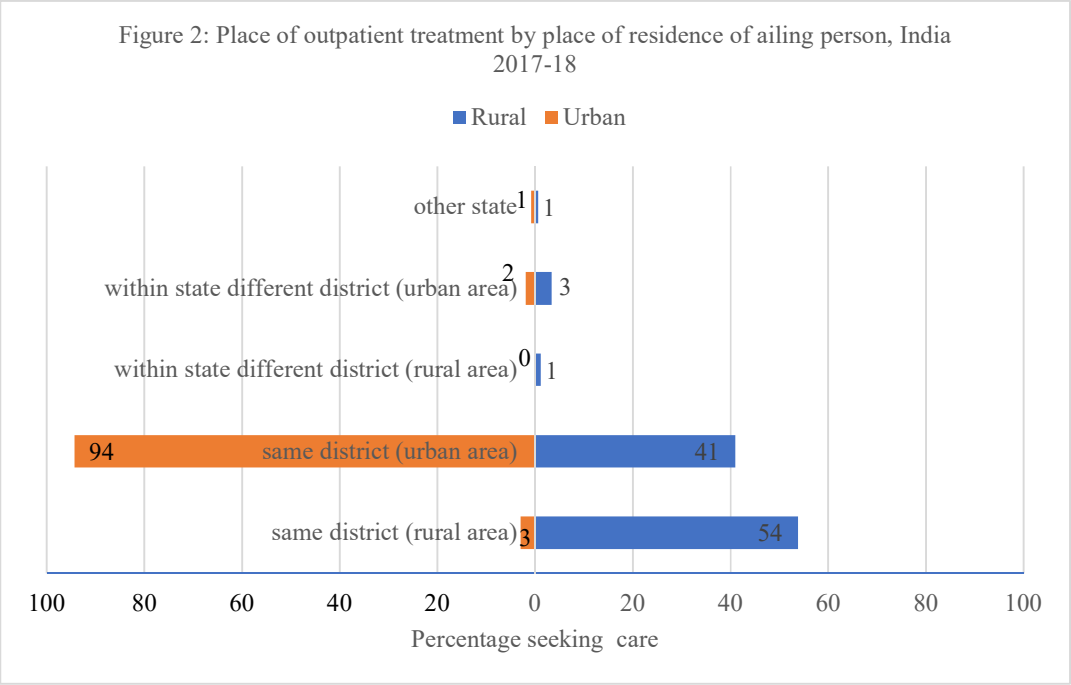



Table 1: Location of health facilities by type of health facilities utilized for outpatient treatment, India 2017-18.

| | Distribution of users by the location of health facility (%) | | | | | | |
|---|---|---|---|---|---|---|---|
| Type of facility | Same district (rural area) | Same district (urban area) | Within state different district (rural area) | Within state different district (urban area) | Other state | Total | No. of cases (N) |
| Government facility (including HSC/PHC/CHC) | 56.4 | 38.6 | 0.9 | 3.7 | 0.4 | 100 | 7,180 |
| Charitable trust/NGO run hospital | 63.0 | 24.5 | 3.2 | 8.0 | 1.4 | 100 | 252 |
| Private hospital | 33.1 | 57.4 | 2.0 | 6.3 | 1.3 | 100 | 4,959 |
| Private doctor/clinic | 62.0 | 35.1 | 0.9 | 1.6 | 0.5 | 100 | 6,385 |
| Any facility | 53.9 | 41.0 | 1.2 | 3.4 | 0.6 | 100 | 18,776 |

*Travel burden by patient characteristics*

The percentage of patients getting outpatient care within their residential area was marginally higher for females than males (Table 2). Age differentials indicates that ailments in children aged below 15 years were more likely to be treated in their locality (62%) than in the case of other age groups. Chronic ailments are less likely to get treated in an outpatient facility located within their usual place of residence (46%) than for acute ailments (62%). This indicates the amenities for treatment of chronic ailments to be lesser than for other ailments. Social group differentials showed a higher percentage of scheduled tribe population (61%) sought care from its own residential area than other communities. This again could be out of availability of special schemes from the government for these people residing in remote areas and due to instances of forgoing treatment owing to financial inability to travel outside for treatment. Similarly, the propensity to seek outpatient care from the locality was more among the poorest MPCE quintile (58%) than in the richest MPCE quintile (48%).

Table 2: Location of health facility for outpatient care treatment received in the last 15 days by selected characteristics in Rural India, 2017-18

| | Location of health facility | | | | |
|---|---|---|---|---|---|
| | Within the place of residence | Urban areas with the district | Outside the district | Total | Number of cases (N) |
| **Gender** | | | | | |
| Male | 51.8 | 42.4 | 5.8 | 100 | 8,823 |
| Female | 55.5 | 39.8 | 4.7 | 100 | 9,954 |
| **Age group in years** | | | | | |
| 0-14 | 62.4 | 33.9 | 3.7 | 100 | 3,755 |
| 15-29 | 57.7 | 39.2 | 3.1 | 100 | 1,857 |
| 30-59 | 50.8 | 42.6 | 6.6 | 100 | 7,259 |
| 60+ | 50.3 | 44.6 | 5.1 | 100 | 5,903 |
| **Nature of ailments** | | | | | |
| Chronic ailment | 45.7 | 47.0 | 7.3 | 100 | 10,901 |
| Other ailments | 62.4 | 34.7 | 2.9 | 100 | 7,877 |
| **Social groups**[1] | | | | | |
| Scheduled tribes | 61.5 | 34.1 | 4.5 | 100 | 1152 |
| Schedules castes | 52.5 | 42.3 | 5.2 | 100 | 3,598 |
| Other backward classes | 52.3 | 42.7 | 5.0 | 100 | 7,905 |
| Others | 55.3 | 39.1 | 5.6 | 100 | 5,761 |
| **MPCE Quntiles**[2] | | | | | |
| 0-20 | 58.0 | 37.9 | 4.1 | 100 | 3,793 |
| 20-40 | 58.9 | 37.3 | 3.8 | 100 | 3,547 |
| 40-60 | 54.6 | 39.9 | 5.5 | 100 | 3,503 |
| 60-80 | 50.5 | 44.0 | 5.5 | 100 | 3,597 |
| 80-100 | 47.9 | 45.3 | 6.8 | 100 | 4,336 |
| All | 53.8 | 41.0 | 5.2 | 100 | 18,776 |

[1] Indian society is generally classified into these four social groups categories in the following ascending order of hierarchy: scheduled tribes, scheduled castes, other backward classes and all others while examining the social divide.
[2] The NSO data sets contain monthly per capita consumer expenditure (MPCE) variable for each household surveyed which is used to classify them into different quintiles. MPCE quintiles serve as a proxy for the economic status of the household.

*Regional variations in place of outpatient treatment*

There were large inter-state variations in the share of rural population who was able to avail inpatient care in the place of residence (Figure 3). More than 70 per cent people in rural areas of Manipur, Mizoram, Nagaland, Delhi and Meghalaya had availed outpatient care from facilities located in their place of residence. About 60-70 per cent of their counterparts in Maharashtra, Telangana, Assam, Goa, West Bengal, Kerala and Chhattisgarh too reported that they utilised outpatient care services in their locality for outpatient treatment. The need to travel long distances was most in Tamil Nadu, Sikkim, Tripura, Rajasthan, Andhra Pradesh, Karnataka, Rajasthan, Bihar, Gujarat, Haryana, Madhya Pradesh, Jharkhand and Pondicherry, where more than 50 per cent of rural population in need of outpatient care was travelling to health facilities outside the rural locality to seek medical care.

*Out of pocket expenses by place of treatment*

Average household out-of-pocket expenses (OOPE) incurred by those who availed treatment within their place of residence and outside their place of residence are presented in Table 3. The total expenses for treatment of an ailment were INR 417 for those who sought treatment from facilities located in their places of residence against INR 1,021 for ailments treated outside their places of residence. Hence, the utilization of health facilities outside the place of residence is for treatment of ailments that are more expensive. The travel expenses per treatment was three times more for patients

treated in facilities outside the place of residence (INR 94) than their counterparts seeking care within their place of residence (INR 29). Other non-medical expenses too were three times more for patients treated in facilities outside the place of residence (INR 64) than their counterpart seeking care within their place of residence (INR 21). These travel expenses and out of pocket non-medical expenses too contributed towards widening the gap in OOPE between those treated in their places of residence and those treated outside. The OOPE were almost double for treatment in the private facilities than in government facilities, irrespective of the location of health facility utilized.

Figure 3: Percentage of people receiving outpatient treatment from health facilities within their place of residence in Rural India, 2017-18

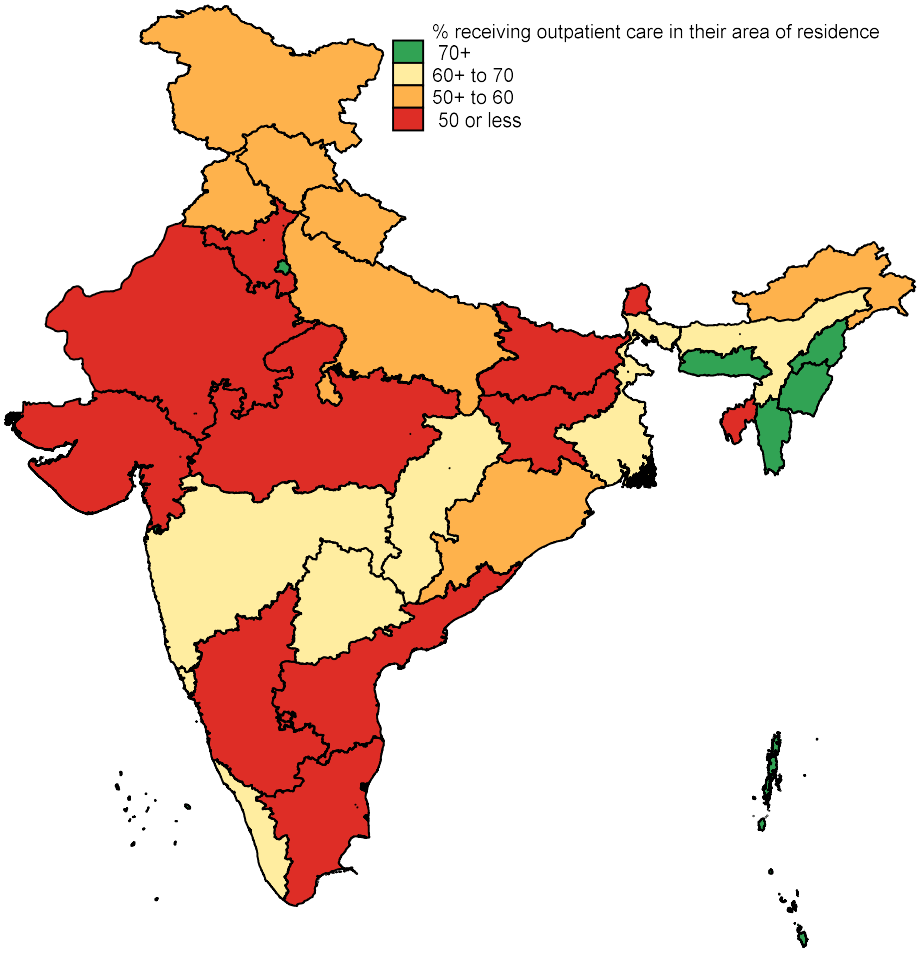



Table 3: Average expenditure on outpatient care by place of treatment in Rural India, 2017-18 (in INR)

| | Average medical exp (INR) | | Average exp on travel of patient-(INR) | | Average non-medical expenses (INR) | | Total expenses (INR) | | No. of cases (N) |
|---|---|---|---|---|---|---|---|---|---|
| | Within place of residence | Outside place of residence | Within place of residence | Outside place of residence | Within place of residence | Outside place of residence | Within place of residence | Outside place of residence | |
| Publicfacilities | 209 | 475 | 39 | 93 | 26 | 66 | 273 | 633 | 7180 |
| Private facilities | 453 | 1046 | 24 | 94 | 19 | 64 | 497 | 1204 | 11596 |
| Combined | 367 | 863 | 29 | 94 | 21 | 64 | 417 | 1021 | 18776 |

Note: Exchange rate for US $Dollar 1 was equivalent INR 64 at the time of the Survey.

*Loss of household income by place of treatment*

The share of outpatient treatment where there was a loss in household income due to treatment and the average loss per episode is presented in Table 4. Loss of household income was reported 21 per cent of the users of outpatient care in the reference period, and this risk was higher for those treated outside their place of residence (26%) than those treated within their place of residence (17%). Interestingly, the loss of household income was marginally higher if patient had utilized government health facilities than other health facilities, irrespective of the place of treatment. This is more likely to be due to higher utilization of government services by those from the unorganized employment sector who are at a higher risk of income loss if absent from work due to illness in themselves or their household members.

Average wage loss associated with the treatment of episode of illness was INR 125, which as expected was more in case the place of treatment was outside the place of residence (INR 163) than when the treatment was received from a facility in their residential area (INR 93). For ailments treated within the place of residence, the average wage loss was marginally higher for those treated in government facilities (INR 108) than in other facilities (INR 84), while such differential was non-existent in the case of ailments treated outside their place of residence.

Table 4: Loss of household income due to outpatient treatment by location of health facility in Rural India, 2017-18

| | Govt. facility | Other facilities | Total | No. of cases (N) |
|---|---|---|---|---|
| **Episodes with reported loss of household income (%)** | | | | |
| Health facility within place of residence | 19.5 | 15.9 | 17.2 | 9,248 |
| Health facility outside place of residence | 28.4 | 24.2 | 25.6 | 9,528 |
| Combined | 23.4 | 19.9 | 21.1 | 18,776 |
| **Average loss in household income (in INR) per episode** | | | | |
| Health facility within place of residence | 108 (555) | 84 (530) | 93 (540) | 9,248 |
| Health facility outside place of residence | 163 (574) | 163 (671) | 163 (637) | 9,528 |
| Combined | 132 (565) | 122 (612) | 125 (594) | 18,776 |

Note: Figures in parenthesis indicate the average wage loss when there was a loss of household income due to treatment; Exchange rate for US Dollar 1 was equivalent to INR 64 at the time of the Survey

## IV. Discussion

Even though the access to health care facilities close to where people live and work is seen as central to primary health care (WHO, 2019), only 54 per cent of those in need of outpatient care in rural India were able to obtain it from health facilities near their place of residence. Rest of the population in need of outpatient care travelled to nearby urban areas in their district or even outside their districts to avail the same. Here it is acknowledged that there are ailments requiring services of specialist doctors or advanced diagnostics methods where there are cost-effectiveness constraints provisioning of such services in rural areas.

In a situation where health facilities are limited in the locality, the share of population seeking health care from locality turns out to be a proxy indicator for access to health care among vulnerable sections of the society. Results indicate that travelling outside the locality to seek outpatient treatment is the privilege of the men more affluent and non-tribal population. They are also linked to searching for more specialised care. Hence, a convergence towards more equitable distribution of facilities is socially more rewarding as it encourages utilization of health services by the less well-off women and tribal population.

There is a shortage of treatment facilities in rural localities for chronic ailments and for health conditions where the OOPE are expected to be higher. As a result, the household OOPE was much higher for ailments treated outside the places of residence than within the places of residence. The

additional travel due to non-availability of services too contributes to a rise in travel cost for treatment, non-medical expenses for treatment and loss of household income due to treatment. The positive association between the proportion travelling outside the place of residence and SES status is critical as there is a need to understand how the poor and vulnerable sections adjust in situations where health care services are not available in the locality and when they do not have resources to travel outside to seek care. Relatively lower self-reported morbidity and medical advice seeking behaviour for reported ailment among poor and socially disadvantaged section in Rural India (NSO, 2019) too is a potential outcome of inadequate physical access to affordable ambulatory care services.

State-wise differentials in the proportion of people travelling outside their places of residence are marked, but the results are to be interpreted cautiously. The burden associated with additional travel is also dependent on the settlement pattern in the state and availability of all-weather roads and transport facilities. In the Survey, we just have information as to care available in the places of residence and not on distance travelled to seek care. However, many people in several states were forced to travel outside their places of residence to avail the outpatient care services. Bridging these gaps is essential as physical distance is seen as a key determinant of coverage of essential health services (Hazarika, 2013; Montgometry et al., 2014; Karra, Fink & Canning, 2017).

*Limitations*

The major limitation of this analysis is that the existing data set used only helps us capture the burden of travel from rural locality to urban locality to seek outpatient care in India. It doesn't capture the rural travel within to seek these services, which is the key as the rural settlements are extensive and characterized by poor transportation facilities. Therefore, gaps in the percentage of people travelling outside the locality, OOPEs and loss of household income would widen further if we account within rural long-distance travel for outpatient care. This analysis would hold only good if health facilities are at least available and accessible in nearby urban areas. For example, tribal population residing in medically underserved areas may not access better services in urban areas due to either distance or inability to pay. In such situations, the tribal or poor population confines itself to facilities in its place of residence which may be a reflection of this handicap.

## V. Conclusion

To conclude, the planners need to pay more attention to balance the distribution of primary health care amenities across the country. Stringent measures have to be taken for achieving the long-standing goals set for establishing adequately staffed PHCs and CHCs in rural areas. Further the local self-governments in less developed rural localities may be encouraged to provide incentives to those coming forward to provide health care facilities in a sustainable manner. Our analysis also calls for the need to invigorate community health programmes and mobile clinics in sparsely populated areas. We also see that it is not practical for specialist facilities to be widely spread. When they are located in a town, people from nearby rural areas will travel to it, which would make the urban residents better off. The solution here may not be to establish specialist facilities in rural area extensively, but to compensate the rural people for travelling and other expenses.

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