Defining Unmet Need for Healthcare among Older Adults in India

Introduction: Unmet need is a critical indicator to assess the performance of healthcare (Rahman et al., 2022). Lack of timely, affordable and effective access to healthcare presents challenges in achieving the goal of universal health coverage in many developing countries (UN, 2015) and widens the need for healthcare. In 1978, for the first time, the Alma Ata Declaration identified health as a human right issue and emphasised on ensuring access to health care as a primary responsibility of governments (Rifkin, 2018). The forum declared primary health care for all- with equity of access and affordability as central to policies supporting universal health care (Kowal et al., 2023). The need for healthcare was again echoed on international forum in the SDG-3 which define universal health coverage (UHC). The definition of UHC encompassed that people receive the needed healthcare without suffering with financial hardship.

There is no explicit and agreed definition of unmet need for healthcare globally, though, researchers use many parameters to establish that. For example, unmet needs can arise for various reasons like barriers related to the availability, affordability, accessibility, and acceptability of services (Tanahashi, 1978) and can be associated with adverse outcomes such as increased mortality (Lindström & Rosvall, 2019) and depression (Stein et al., 2019). Addressing the concerns related to ADL, IADL, and cognitive impairment are also seen as indicators of Long-Term-Care, which need interventions to protect the health of older adults at risk. Hence, quantification of unmet need may be defined as per the availability of data and the criteria adapted by researchers. From policy perspective, the unmet need can be quantified by contribution to the efforts to "leave no one behind" as part of SDG Target 3.8 and renewed interest in equity in national policy deliberations as part of commitments to the Astana Declaration (Kowal et al., 2023)

There are limited studies in Indian context on measurement of the unmet need for healthcare among older adults. Therefore, our paper aims to define the unmet need for healthcare among older adults using different measurements and criteria and provide its estimates across Indian states and socio-demographic groups.

Data and methods: The study uses individual-level data of Longitudinal Aging Study of India (LASI), Wave-1. The LASI is nationally representative biennial panel survey of 73,396 individuals aged 45 and above and their spouses irrespective of their age from 36 states and union territories of India. LASI also collected the data on different biomarkers from 66,859 individuals. It is designed to provide reliable estimates of all health outcomes and social and economic wellbeing indicators.

Using available information, we calculated three different types of unmet need for healthcare among older adults, based on: 1) visits for healthcare and referrals, 2) lack of treatment for sensory organs (eyes, ears and teeth), and 3) lack of treatment for diseases/conditions.

1. Unmet need based on visits for healthcare and referrals: we considered the questions related to utilisation of and referral to healthcare facility/provider in past 12 months and reason for not availing the healthcare. The indicator was divided into three parts, no need for healthcare, met need and unmet need. The respondents who did not get sick or disease was not serious enough or had medicine at home were include in No Need for healthcare. The respondents who visited healthcare facility/provider and were not further recommended for any hospital visit and who were recommended, they made more than one visit to health facility/provider were categorised in Met Need. Unmet need included two types of respondents, 1) who did not visit healthcare provider/facility because of economic reasons, lack of accessibility, poor quality of facility, and no

support from family; 2) of the respondents who visited healthcare facility/provider, some were suggested to visit health facility but they only made one visit to the health facility/provider in last 12 months, and some decided against going to the healthcare facility because of various reasons.

2. Unmet need based on lack of treatment for sensory organs included respondents who reported having problem with their vision (poor vision with or without glasses), hearing (diagnosed with problem but did not seek treatment) and teeth (having problem in chewing the food) and remaining were categorised in no-need or met need.

3.I. Unmet need based on lack of treatment for diseases-I (Morbidity based unmet need): Ten chronic conditions/diseases (hypertension - diagnosed by healthcare provider, diabetes, cancer, lung diseases, heart diseases, stroke, arthritis/rheumatism/osteoporosis, neurological issues/psychiatric problems, high cholesterol and renal failure) were considered for calculation. If the respondent was diagnosed with the condition/disease and was not seeking care to manage it, was considered having unmet need.

3.II. Unmet need based on lack of treatment for diseases-II included all the parameters of lack of treatment of diseases-I along with the respondents, who did not report to be diagnosed with hypertension but were found to have hypertension during assessment *(measured hypertension)*.

3.III. Unmet need based on lack of treatment for diseases-III included all the parameters of lack of treatment of diseases-II along with the respondents, who were measured with hypertension during assessment in the survey and reported consuming medication for diagnosed hypertension *(unmanaged hypertension)*.

As two of the indicators included measured hypertension, sample of the analysis was 66,859.

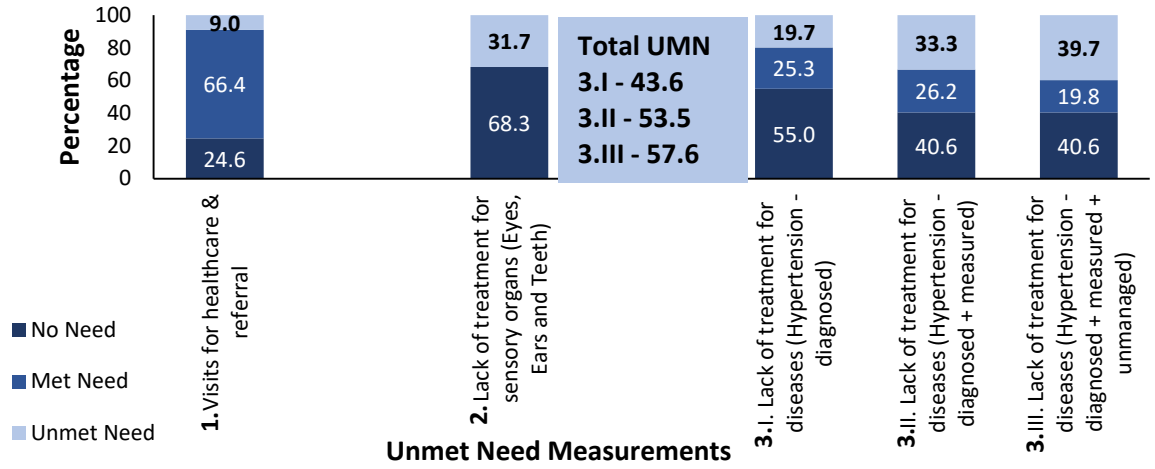
The independent variables considered in the analysis were the states of India, regions (as per LASI division), 10 years age groups (<50, 50-59, 60-69, 60-69, 70-79, 80+), sex (male, female), place of residence (rural, urban), wealth quintile (poorest, poor, middle, rich, richest), marital status (married, not married), working status (currently working, ever worked, never worked), religion (Hindu, Muslim, others), caste (SC, ST, OBC and none of them), education (no education, less than 5 years, 5-9 years, 10 or more years), impairment (yes, no), ADL (yes, no), mobility (yes, no), multi-morbidity (no, one, two or more), health insurance (yes, no). The data was analysed in STATA using descriptive, bivariate, multivariate and decomposition analysis.

Results: As per the first definition of unmet need based on healthcare visits and referral, nine per cent older adults had unmet need, while 24.6% did not need any healthcare. Thirty-two per cent older adults had unmet need based on lack of treatment for sensory organs. The unmet need was 19.7% on 3.I indicator based on lack of treatment for diseases. After including undiagnosed hypertension, the unmet need increased to 33.3%. Additional 6.4% point increased was observed when the indicator further included unmanaged hypertension (39.7%). We combined the unmet need on sensor organs and diseases to measure the total unmet need among older adults based on health ground. The total unmet need for health needs was 43.6%, 53.5% and 57.6% respectively with all combinations (sensory + diagnosed, sensory + diagnosed + measured, sensory + diagnosed + measured + unmanaged) (Figure 1).

The unmet need indicators were further cross tabulated by age. The unmet need based on visits to healthcare & referral remained almost constant across the ages. The same pattern was seen in case of lack of treatment for diseases (diagnosed hypertension-3.I). On contrary, other three indicators indicated increase in unmet need with increase in age (Figure 2). Mizoram (18.4%) and J&K (15.3%), Maharashtra (14.9%), AP (14.9%) had more than 15% unmet need based on healthcare and referral, while Karnataka, Jharkhand, Odisha, Nagaland and Lakshadweep had less

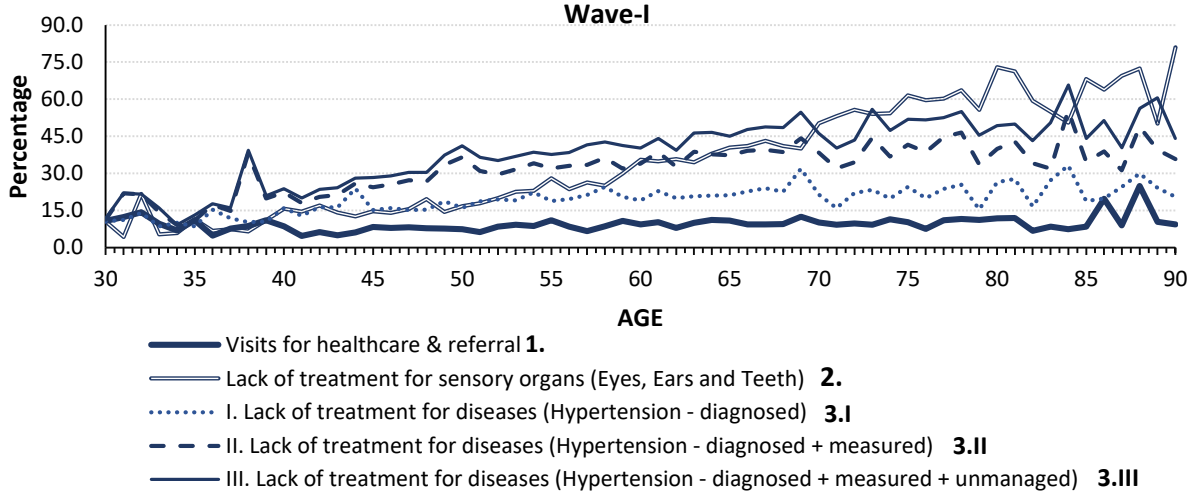
than 5% unmet need. Unmet need based on lack of treatment for sensory organs was the highest in Uttarakhand (45.9%) followed by Madhya Pradesh (43.4%), West Bengal (42.6%) and Punjab (41.5%) and the lowest in Arunachal Pradesh (15.7%). Twenty states had higher unmet need on first indicator of lack of treatment for diseases (diagnosed). Nagaland turned out to be an important state where the burden of undiagnosed hypertension increased the unmet need of healthcare to many folds and pushed it on 1st rank, while it was second last state on unmet need based on diagnosed diseases-I; while this increase was the least in Haryana. With unmanaged hypertension, Sikkim reached at the first position on unmet need with higher contribution while Haryana performed well. Arunachal Pradesh, and Uttar Pradesh showed least increase in this unmet need from diagnosed and measurement based unmet need.

Figure 1. Unmet Need for Healthcare among older adults, India, LASI-Wave-1



Respondents with multi-morbidity, mobility & ADL restrictions, impairment issues had higher unmet need based on visits for healthcare & referral, while greater education, and availability of health insurance were negatively associated. With increased age, sensory organ based unmet need showed many fold increase. Other factors contributing to high unmet need (sensory organs) were morbidity, mobility issue, ADL restrictions, ever worked, while residence in urban areas, greater education and wealth quintile, and current working status indicated low unmet need.

Figure 2. Unmet Need of Healthcare by Age among Older Adults, India, LASI-Wave-I



The determinants of disease based unmet need (high) were higher ages, greater wealth quintile, better education, living in urban areas, female, ever worked, presence of mobility issue, ADL

restriction and impairment. As compared to north India, other regions of the country had low unmet need. The pattern was almost same on other two indicators, however, North Eastern, Western and Southern regions had high unmet need after adding undiagnosed hypertension. Also, females had less unmet need as compared to males on this definition. Unmet need based on unmanaged parameter was low among females, greater wealth index, and central region, while it was high in greater ages, all other regions, ADL restrictions, ever worked, mobility issue.

The contribution of various explanatory variables in different unmet need measurements were estimated using the Wagstaff decomposition. In unmet need based on visit to healthcare & referral, presence of morbidity explained maximum variation followed by mobility, while education had negative contribution. In sensory category, age contributed the maximum and region being the lowest contributor. In lack of treatment-I, mobility contributed the highest, whereas in lack of treatment II and III, age became the major contributor followed by region in II and mobility in III and sex became the least contributor in both.

Conclusion: Unmet need highlights the effectiveness of the healthcare system; greater the unmet need, least effective the healthcare system. Our study found that there exists the thrust of healthcare to manage undiagnosed or unmanaged health conditions (high unmet need). There also existed a high level of heterogeneity in the prevalence of unmet need among older adults. Demographically and economically advanced states (western, and southern) and geographically difficult regions (north eastern) of the country were having greater unmet need on measured and unmanaged diseases, while functional/mobility limitation also contributed in a greater way along with increased age and socio-economically ingredients. Greater and targeted effort are required to ensure to reduce the prevalence and consequences of unmet need and strengthen healthcare system to address issues related to awareness, accessibility and affective outreach of the services to the needy population. Also there is a dire attention to provide standardised definition of unmet need along with evidence generation.

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