



# ASSESSING SERVICES AND ACCESSIBILITY OF URBAN PRIMARY HEALTH CENTERS FOR GERIATRIC POPULATION IN MUMBAI - A CASE STUDY.

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**Abstract:** This study examines the accessibility and adequacy of services provided by urban primary health centers (PHCs) for the elderly population in Mumbai, with a specific focus on the L ward. With a rapidly aging population and increasing prevalence of non-communicable diseases, India faces a growing need for geriatric-inclusive healthcare infrastructure. The primary objective of this research is to evaluate existing healthcare services, facilities, and resources for the elderly and identify barriers that limit effective healthcare delivery within urban PHCs.

Utilizing a mixed-methods approach, the study includes quantitative data collection through facility assessments based on national guidelines for elderly healthcare and qualitative data through observations, interviews, and focus group discussions with health center staff and elderly patients. Key findings reveal structural and operational gaps, including limited geriatric-friendly infrastructure such as ramps, handrails, and accessible toilets, which impede mobility and convenience for elderly visitors. Additionally, shortages in essential clinical equipment, inadequate training for healthcare staff in geriatric care, and insufficient outreach for home-based care are identified as critical deficiencies. The study also highlights the need for improved information and communication methods within PHCs to enhance awareness of available services.

This research concludes that significant upgrades are required in infrastructure, training, and resources within Mumbai's PHCs to align with the National Program for Health Care of the Elderly (NPHCE) objectives, thereby promoting accessible, equitable, and effective healthcare for India's aging population. Recommendations include structural modifications for better accessibility, capacity-building programs for healthcare staff on geriatric protocols, and improved resource allocation to facilitate comprehensive and inclusive health services for the elderly.

## INTRODUCTION

The world is changing demographically. Global trends show that there is a slowdown in population growth with overall reduction in fertility and increase in human longevity. Collectively it is causing the proportion of older persons to increase over time throughout the world, leading to a larger population of people aged 60 and above. Globally the number of persons aged 60 or above is expected to more than double by 2050 (UNDESA, 2015). As per LASI Report India 2020, people aged 60 and above accounted for 8.6% of the total Indian population, numbering 103 million elderly persons. Census 2011 states that the geriatric population has tripled in India in the last 50 years. In India it is being observed there is increase in the contribution of non-communicable diseases (NCD) on 'disability-adjusted life years' (DALY) from 30% in 1990 to 55% in 2016 and increase in proportion of deaths due to NCDs (among all deaths) from 37% in 1990 to 61% in 2016. This shows a rapid epidemiological transition with a shift in disease burden from communicable diseases to NCDs (Swaminathan). In future is anticipated to lead to overcrowding the government infrastructure. Primary care helps prevent illness and death. Evidence also shows that primary care (in contrast to specialty care) is associated with a more equitable distribution of health in populations (Contribution of Primary Care to Health Systems and Health). The need to strengthen and adapt our existing infrastructure for the growing geriatric population and its associated needs is important. This study aims to explore the current ground situation in primary health centers of Mumbai with emphasis on geriatric access and service delivery like providing promotional, preventive, curative and rehabilitative services in an integrated manner, assess gaps and possible ways to overcome the gaps. Maharashtra with an estimated population of 125 million has an elderly population share of 11.7%, which is higher than the national average of 10%. It is projected to increase further, to reach a 15% share by 2031. The main domains which will affect the health care in India in near future are the following a. Existing Burden of Non-

Communicable Diseases (NCD) b. Premature NCD burden. c. Health system strengthening (LASI India report, 2020). Health system strengthening to provide the access and services for the geriatric population is important to overcome the problem of access to free and affordable primary care to the elderly. The primary health care system should be prepared to provide preventive, curative and rehabilitative services for the communities. Therefore, there is a need to assess the present condition of the health system for better future preparedness.

### **NEED OF THE STUDY.**

The study aims to assess the existing services for the geriatric population in the urban primary health centers in L ward-Mumbai and to identify the ways by which the access, services and facilities can be improved for the future. study of the primary health system can help anticipate the changes and the developments required to align the current services for the changes of the future making the current systems of health care future ready. It also enables us to gauge the needs based upon the changes in the societal conditions due to unanticipated circumstances and their effects, ex. The COVID 19 pandemic.

### **Literature review –**

Population aging is a highly discussed worldwide phenomenon. Currently India is a young country with 65% of its population is under 35 years of age but by 2025, India's share of older persons will double and reach 20.8% of the total population. Here the older population refers to people over 60 years of age. Elderly have diverse health needs and require them frequently. The retirement age in India is usually in the age group 60-65 years, making the health care expenses of nonearning / retired individuals difficult to bear. Primary health centers are the front-line institutions that deliver integrated care close to people in both urban and rural areas covering primary health care needs of people of all age groups and social backgrounds. The National program for the health care of the elderly launched by government of India in 2011, and aim to provide identification of and easy access to promotional, preventive, curative and rehabilitative and referral services through community based primary health-care (PHC) approach. (5) Implementation of the policies to address health challenges is crucial. (7) Ensuring good quality geriatric health care services at the primary level would help in improving the utilization of the available health services. Health care services should be based on the needs perceived by the elderly population. Surveys involving elderly and functional assessment of primary health care services are important. Though many studies focus on the NPHCE in rural settings, studies for urban health care systems are scarce. Facilitating access is concerned with helping people to command appropriate health care resources to preserve or improve their health. Access is a complex concept and at least four aspects require evaluation. If services are available and there is an adequate supply of services, then the opportunity to obtain health care exists, and a population may 'have access' to services. The extent to which a population 'gains access' also depends on financial, organizational and social or cultural barriers that limit the utilization of services. Thus, access measured in terms of utilization is dependent on the affordability, physical accessibility and acceptability of services and not merely adequacy of supply.

Services available must be relevant and effective if the population is to 'gain access to satisfactory health outcomes'. The availability of services, and barriers to access, must be considered in the context of the differing perspectives, health needs and material and cultural settings of diverse groups in society. Equity of access may be measured in terms of the availability, utilization or outcomes of services. Both horizontal and vertical dimensions of equity require consideration. The term "health care services" means any services provided by a health care professional, or by any individual working under the supervision of a health care professional, that relate to— (A) the diagnosis, prevention, or treatment of any human disease or impairment; or (B) the assessment or care of the health of human beings. Primary health-care center is a place that provides services which are usually the first point of contact with a health professional. They include services provided by general practitioners, dentists, community nurses, pharmacists and midwives, among others.

### **3.1 Sample selection**

The research is a case study, involving collecting primary data using mixed methods for data collection in two select primary health care facilities. It aided to find the need and gaps of the existing health system for geriatric population primary level facilities. The sample selected using simple random sampling involving individuals consented and available for the interview or focus group discussion. It included the clinical and non-clinical staff and the elderly patients present in the health facility during assessments.

### **3.2 Data collection methodology**

Quantitative data collection was done by a facility gap analysis tool and observation of the facility. It was based on National program of health care of the elderly (NPHCE) guidelines integrated with the operational guidelines for the Indian Public health standards for health care facilities (IPHS 2022). The national program for the elderly provides detailed guidelines of the facility assessment for elderly Healthcare, which helped to understand the status of the services of the facility. This aided in designing the way forward to improve the existing gaps and services. The gap assessment tool consisted of facility assessment along the lines of services, infrastructure, clinical material, tools, equipment wash facilities etc. Qualitative data was collected by means of observations of the health facility and semi-structured interviews and focus group discussion with health facility staff and elderly patients visiting the health care facility. Focus group discussion with all the members of the staff and interview of the Medical-officer gave insights of the hindrances in facility provision, existing norms and process. Qualitative interviews of the elderly clients who visited the health facility supported to understand their health needs, health seeking behavior and out of pocket expenses using a semi-structured questionnaire. Individual patient interviews of the elderly patients who visited the facility was taken in each of the two selected facilities. Secondary research consisted of knowing the existing policies for the elderly and the systems expected as per government norms. Collected data was checked for missing data and outliers. The quantitative data analysis was done using excel crosstabulation and qualitative data analyzed based upon the thematic areas identified in the interview and focus group discussions. Inferences were based upon qualitative descriptive analysis and observations.

Site of data collection - PHC Tunga Village (Sakinaka) and PHC Sangharsh Nagar

### Research questions –

The study aimed to understand how equipped the facilities of the select sample of primary health care centers were for the aspects mentioned below

1. What is the current situation of the geriatric care in primary health setups of Mumbai.
2. Are there enough services? Is it sufficient?
3. How is the current infrastructure?
4. Is the service and infrastructure geriatric friendly?
5. Are the geriatric population surrounding the government primary health care facility assessing the facility for their health needs? If yes, why is the facility preferred by them?
6. Are there gaps in the facility? If yes, what are the ways to assess them
7. How can the current services be made more inclusive for the geriatric population for access and services.

### Limitations of the study-

The study is focused on the sample of the primary health care facilities present in L ward of Mumbai. This research is a onetime study conducted on the target audience. The results cannot be generalized for the rest of the wards and primary health centers in Mumbai. As per annual budget allocations of government and priorities as per global targets of SDG progress the facilities are evolving and will continue to develop and have newer developments in near future.

## IV. RESULTS AND DISCUSSION

### 4.1 General Observations of the facility

L ward has a total of 15 Primary health facilities (PHC). All Health post and Dispensary are in government owned building except Chandivali PHC. Health facilities have an average area of 1500 square feet. The PHC are accessible by public transport. Each PHC caters to average of ten thousand household and serves population of more than seventy-seven thousand individuals. The study was conducted at, PHC Tunga village and PHC Sangharsh Nagar. Each of the chosen PHC caters to daily average OPD of 70 -100 individuals per day. Demographically the male to female beneficiary ratio per OPD is 1:3. Each facility comprising of an OPD, nurses' room, waiting hall, record room, pharmacy, medicine storage room and WASH (Water, sanitation and hygiene). The PHC structure has ground floor with dispensary services comprising of consultation room, pharmacy cum collection center and nurses' room, the floor above consisted of health post with rooms for record keeping, and consultation and must be accessed by stairs.

### 4.2 Services and Referral network

PHC had availability for services of maternal and child health, NCD clinics, immunization, etc. Emphasis on common Cancer Screening in outreach is not conducted in PHCs. Yoga and wellness activities have not been initiated. PHC reported to not have grievance mechanism and citizen charter 7 was not displayed. facilities had IEC display in form of posters (Information -education -communication) but lacked LED for IEC display at facility. One of the assessed PHC had a DOTS center. Both the PHC have blood collection center for diagnostics, the tests were outsourced. All PHC have reported uninterrupted electricity supply at Health facility but none of the assessed facility have inverter/solar backup. None of the assessed PHC have ambulance service of their own, 108 ambulances services are availed in case of emergency. At an average around fifteen delivery cases are referred per month to attached referral center which is situated in radius of 2-5 km. Average distance of Attached referral center is 3 km. Marol Government Hospital, Meena tai Thackeray; Kurla Bhabha Hospital, Sion Hospital, Anandibai Joshi Maternity Home are the reported government referral centers

### 4.3 WASH (Water, sanitation and hygiene)

Water sanitation and hygiene is integral part of health facility. All facilities have reported a piped water supply connection. One out of two assessed facilities reported some form of plumbing requirement for refurbishment. One out of two facilities had water filtration method in place for drinking water. At an average 2 hand wash station/ basins were present in each facility and had water availability. It was observed that the facilities reported lacked adequate handwashing soap/liquid for hand hygiene. At least 2 toilets per facility are available for staff and patients, but only one fully functional toilet is available for use and rest required improvement. Toilets didn't have signages for male and female, separate toilets for patients and staff were not available at most places. functional toilets had a lock due to which the toilet was not accessible for the patients. None of the toilets had provision for rails or support for people with restricted movement, commode was not available at the facilities. Facilities sometimes had water shortage. facilities reported one functional desktop, but no teleconsultation has been initiated at PHC and no such circular or order for initiation has been reported. System of drug indenting is paper /register-based using drug indenting registers.

### 4.4 Findings

Any budgeted primary health services need to be equipped with basics like functional infrastructure, trained and adequate manpower, clinical equipment's, tools, consumables for service delivery. Structurally, PHC have vertical expansion due to space constraint in urban area of Mumbai. The facility had steps to reach its health post for availing few services, it can cause in convenience in people who have mobility restriction and restrict access. PHC had presence of ramp with rails at entrance, but they lacked wheel chair & stretcher availability for people in need. There is lack of presence of support hand rails at places like corridors and waiting areas to aid movement. Similarly, the WASH areas were also not geriatric friendly in absence of western commode, hand rails support, wheel chair accessibility to toilets and low toilet seating to support people on wheel chair etc. Based on the data collected from the above mentioned two PHCs, following plots have been generated.

Graph 1

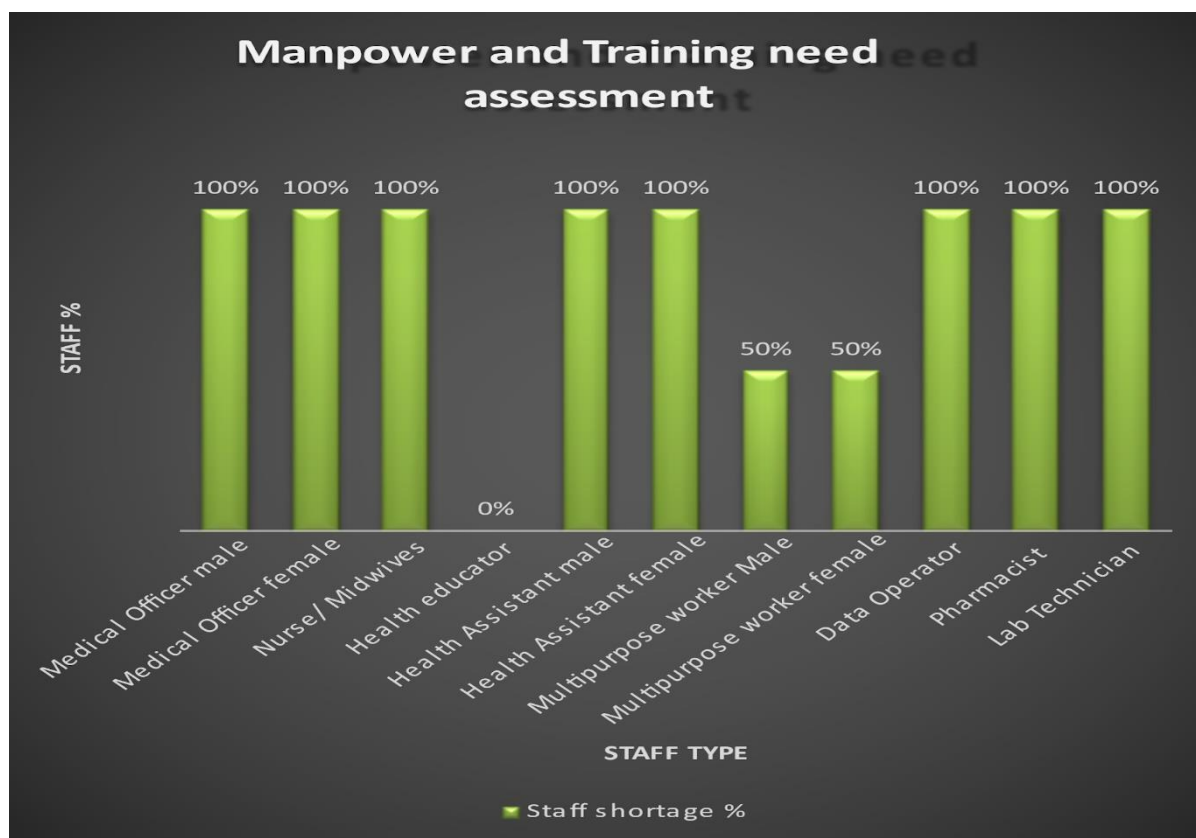
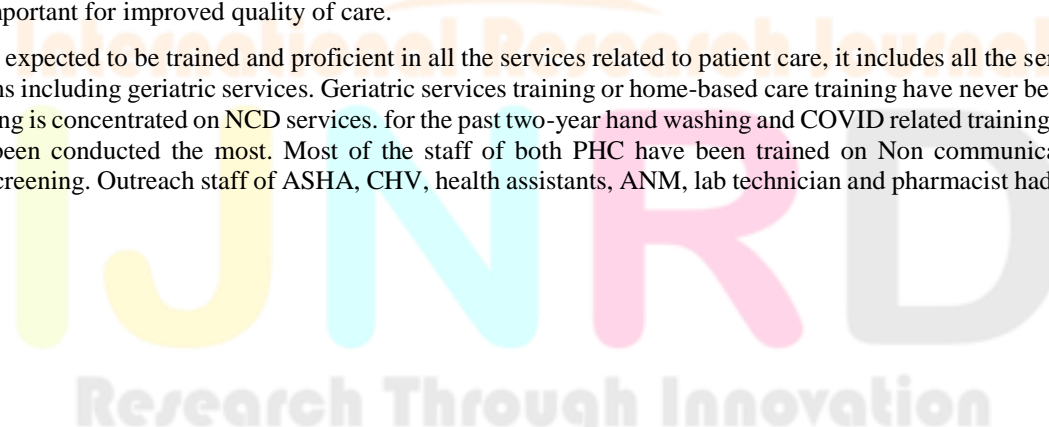


Figure 1 - Man power availability as reported (Data of all present staff at PHC Tunga and Sangharsh Nagar).

The PHC is reported to have adequate human resource for most of the sanctioned staff as per IPHS guidelines (Indian Public health standards guidelines) but has partial availability of multipurpose workers (50 % unavailability) and has no availability of health educators. One of the objectives of NPHCE is to promote active and healthy aging, under which it strategies to promote awareness among the people. A health educator along with ANM, ASHA, collectively have a pivotal role to educate the beneficiaries of the PHC to have a healthy aging at PHC and in communities. Multipurpose workers aid in many works of the service functionality, like providing ambulatory support to needy, shifting of the referred patients, cleaning and disinfection etc. their training on the important health themes is important for improved quality of care.

The staff present is expected to be trained and proficient in all the services related to patient care, it includes all the services related to national programs including geriatric services. Geriatric services training or home-based care training have never been conducted at PHC. Staff training is concentrated on NCD services. for the past two-year hand washing and COVID related training for universal precautions have been conducted the most. Most of the staff of both PHC have been trained on Non communicable diseases management and screening. Outreach staff of ASHA, CHV, health assistants, ANM, lab technician and pharmacist had not received NCD training.

Graph 2



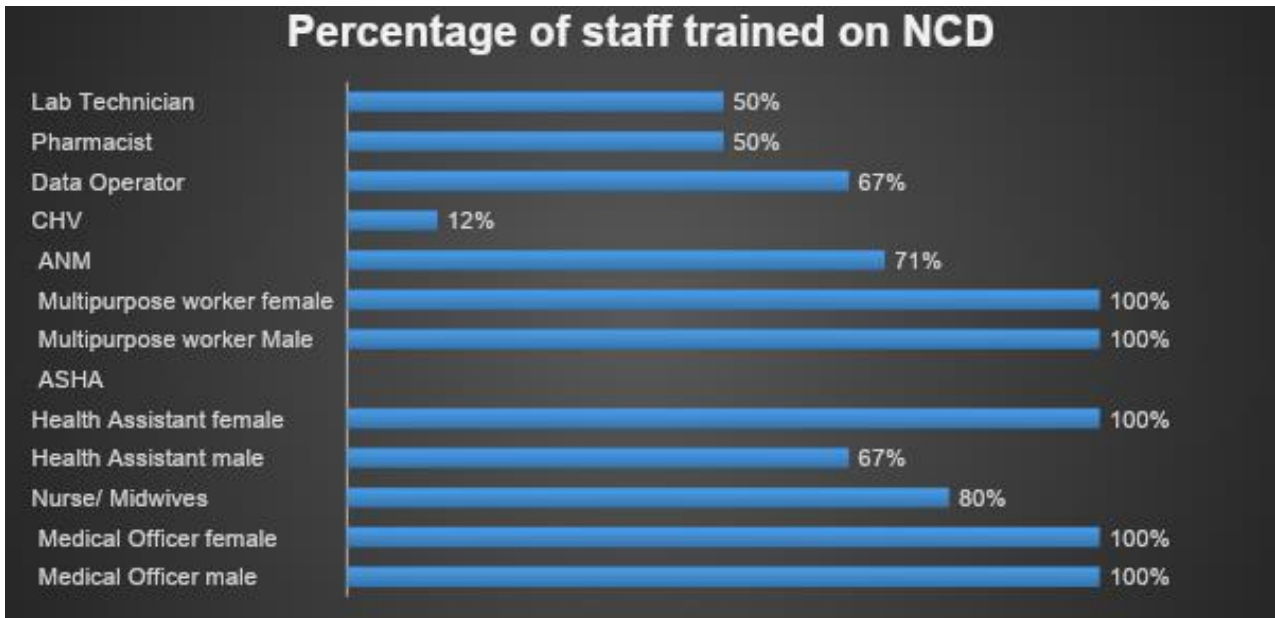


Figure 2 Percentage of the staff at PHC Tunga and Sangharsh Nagar, trained on comprehensive management of non communicable diseases

NCD forms the major reason for the elderly population to be requiring health care services. National program for NCD management has been focusing on it through primary health care centres. NPHCE also emphasizes the need and objective to curb NCD and its related complications for the elderly. Staff at all primary health care must be trained in the comprehensive management of non-communicable disease to serve the communities.

Graph 3

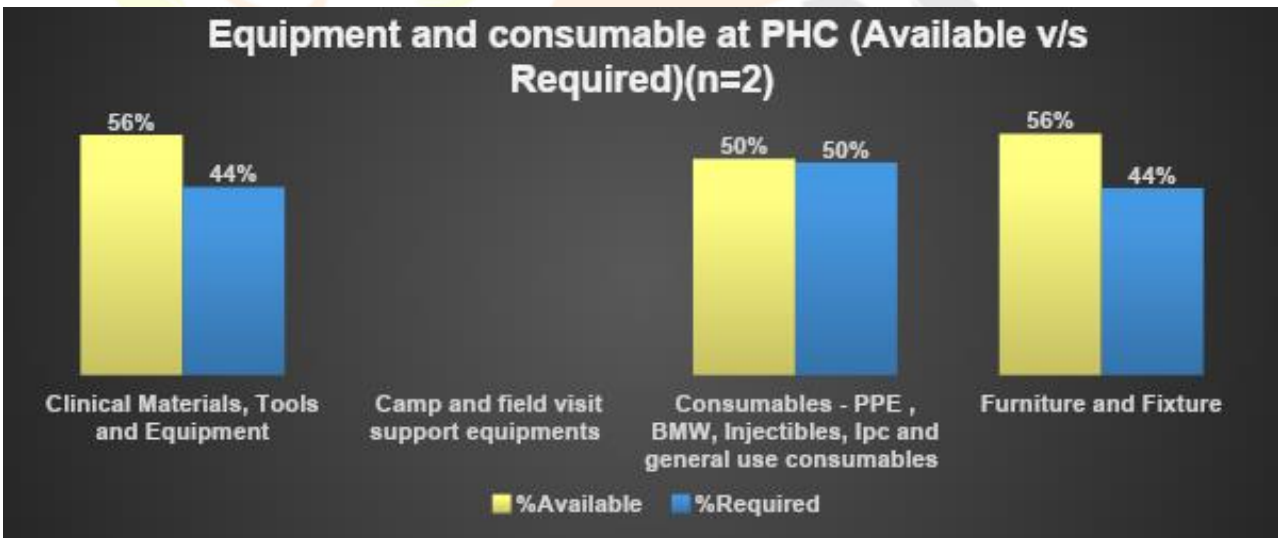


Figure 3 Percentage of the (Reported) equipment and consumable availability (Availability calculated against list of equipment and consumable mentioned in IPHS guidelines 2022)

## Research Through Innovation

IPHS guideline state for the need of 57 different necessary clinical equipment tools, 6 basic camp support equipment, 6 Newborn Care and Minor Surgical equipment, Personal Protective Equipment, Biomedical waste management consumables, Injectables, Infection prevention consumables and general use consumables, and 45 basic furniture to be equipped at PHC along with means for documentation like registers and laptops. The total sums up to be around 238 total clinical items. Out of the mentioned 238 items at PHC there is 44% requirement of clinical material, equipment and tools. The camp and field visits support required for outreach are not present. There is a 50% shortage of consumables and 44% requirement of furniture and allied items at PHC. IPHS states 29 basic categories of medicines should be always available at PHC, it includes 170 different medications to be included at PHC; out of which there is 38% medicine has unavailability at PHC. 50% of medicine are insufficient as per IPHS guidelines for primary health centre. It includes various medications required for services like NCD, maternal and child health etc. Medicine availability is linked to reducing out of pocket expense of the patients and ensures medicine compliance. Both these factors support better disease management for patients. Medicine unavailability, creates unsurely for people to avail service and hinders the patient treatment outcome. Out of pocket expense is a major reason for non-medicine compliance in geriatrics, as they are dependent on their family for their basic needs.

Graph 4

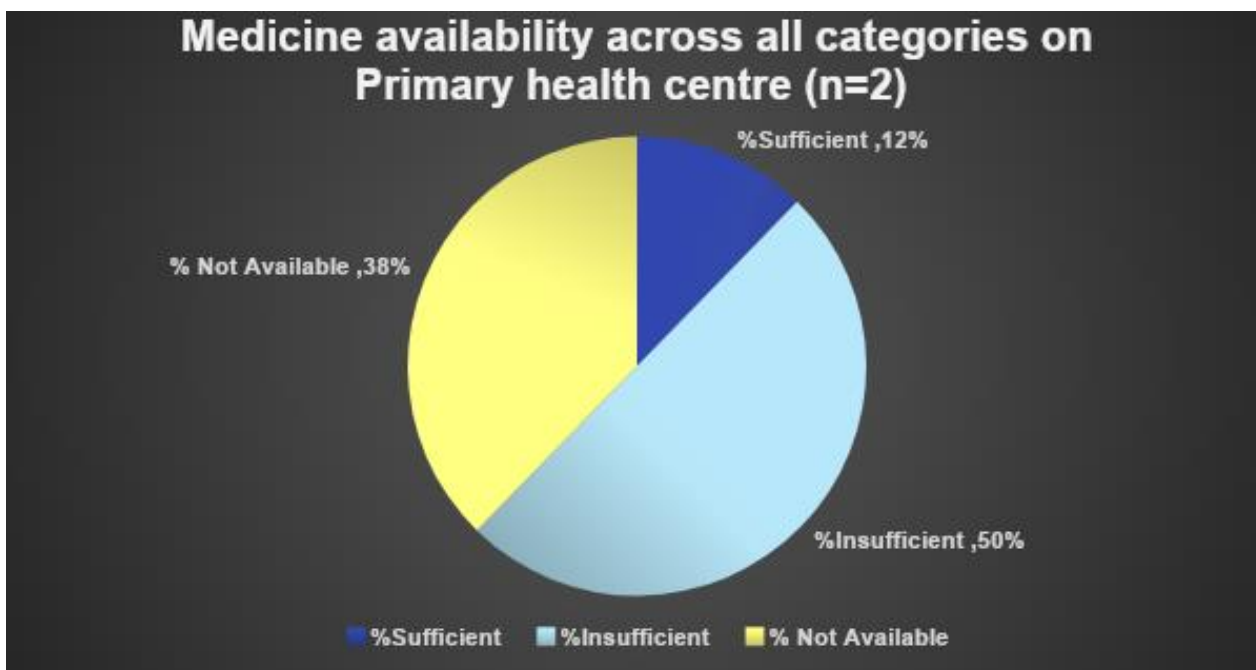


Figure 4 Status of the medicine availability reported, mapped against the list of medicine for PHC as per IPHS guidelines 2022

There are many primary care services available at PHC, the highest number of services used were for childhood and adolescent services. Followed by Immunization and neonatal and infant services and comprehensive management of non-communicable diseases. Annual NCD camps are also conducted at the PHCs. One of the assessed PHC reported non availability of functional equipment for NCD services, like spare sphygmomanometer, glucometer with strips etc. The domiciliary visits form an important arm of geriatric care as per NPHCE and support the geriatric population who are bedridden or have mobility issues, The facilities assessed had low number of field visits and home care-based services. The geriatric patients visiting the facility are regular at NCD clinics by the PHCs. They avail medication and consultation services at PHC and find it easy to access as they are residing in a nearby location. Few beneficiaries are required to commute by rickshaw to come to the facility. The beneficiaries trusted the facility for their quality of care and free and affordable service. A few beneficiaries shared they were apprehensive to avail the services from the government since they found the process time consuming and tedious, but during COVID they had to start using government facilities due to financial constraint and now have become regulars after being familiar with the process. Few shared they must avail them because they cannot afford private facilities due to financial constraints after being retired.

Graph 5

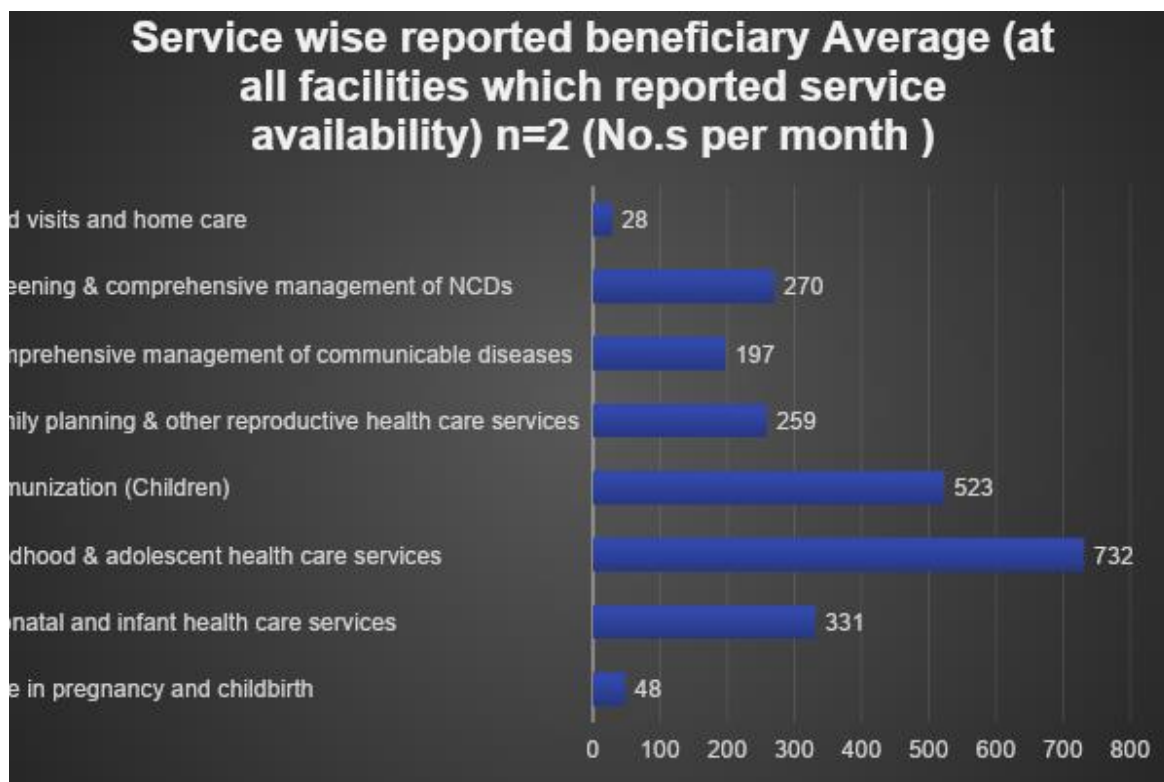


Figure 5 Number of beneficiaries reported per service (offered by the PHC) in the past one month, across 2 assessed PHC.

#### 4.5 Conclusion

The study assessed the primary care facilities for access and availability of primary care services for the geriatric population it serves. The structure has design and functionality issues which inhibit people with issues of imbalance, low mobility or immobility to freely access the spaces. The tiered structure of the primary health centre has been made due to non-availability of space in urban landscape, leading to limiting access to reach the facility for its services. The structural issues can be combated with restructuring of the existing spaces with a ramp friendly way to make the access easy via a wheelchair. Availability of handrails, support posts, anti-skid tile, all these measures can help to make mobility better for elderly to make accessible infrastructure. The navigation across the facility can also be aided by Ex direction arrows for process flow. Facilities like help desks for quick resolution of queries can support unattended elderly. Capacity building of healthcare staff in allied protocols of the NPHCE and its operational guidelines and objectives will sensitize the human resources and make them better equipped to support the elderly. It is also essential to include all staff for such capacity building to have a larger impact. Outreach is one of the most important segments to support geriatric services, non-availability of equipment and adequate consumables might reduce the beneficiary receiving services and affect the service delivery, hence adequate availability of the equipment should be ensured for smooth service delivery or all the staff. Information and awareness through audio visual aids and local folks etc. is also an important aspect mentioned in NPHCE for geriatric health awareness. facilities should encourage display of signages at the facility, but visual aid and use of LED can be a more engaging and interactive experience for the elderly capacity building. can be more specific. All the above gaps when filled can help fulfil the NPHCE objectives of quality accessible, affordable comprehensive health care for the aging population.

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