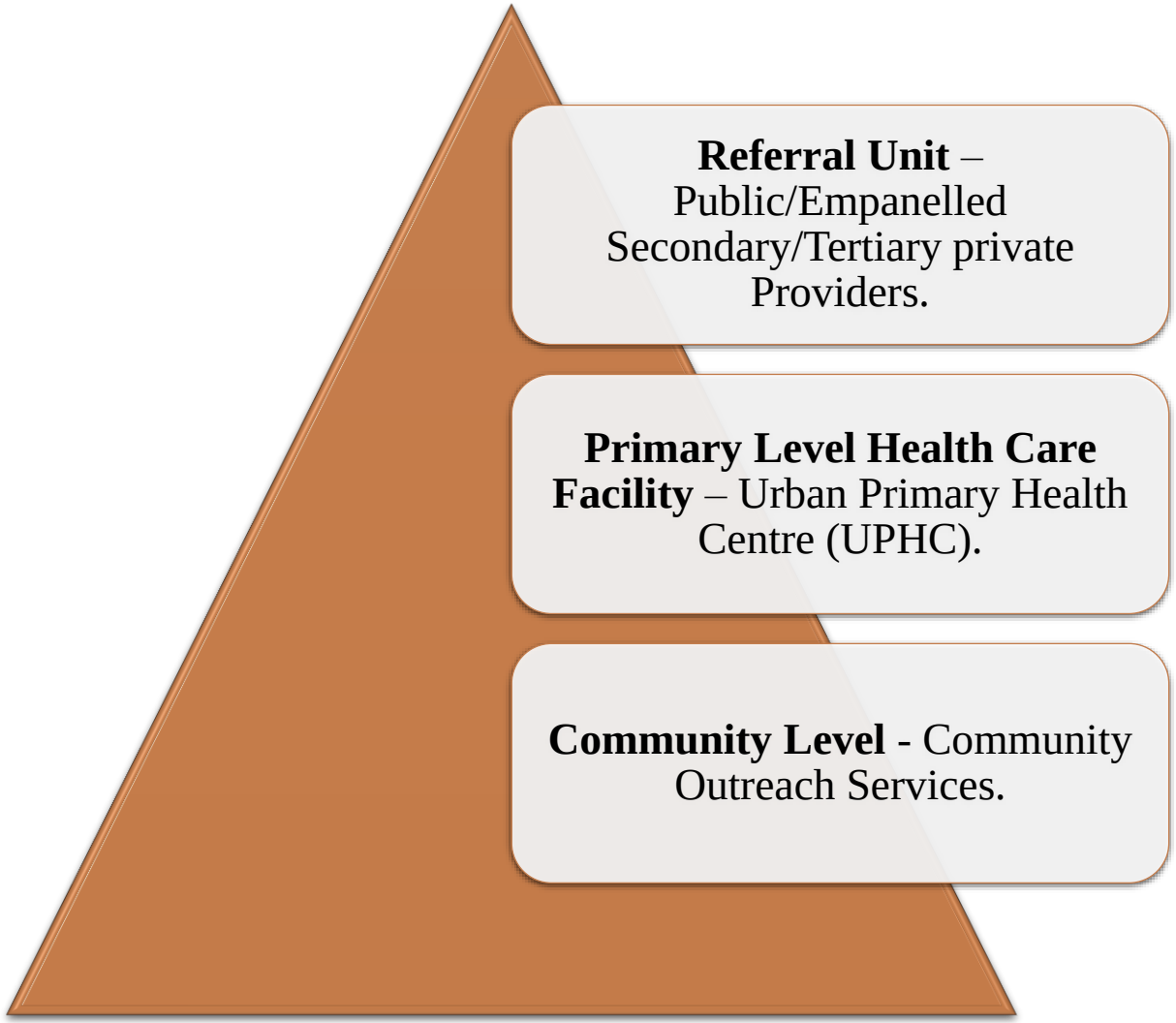
TITLE OF STUDY

"To assess the performance of Public Health Managers (PHMs) working in the UPHC's under NUHM in cities of Telangana, India."

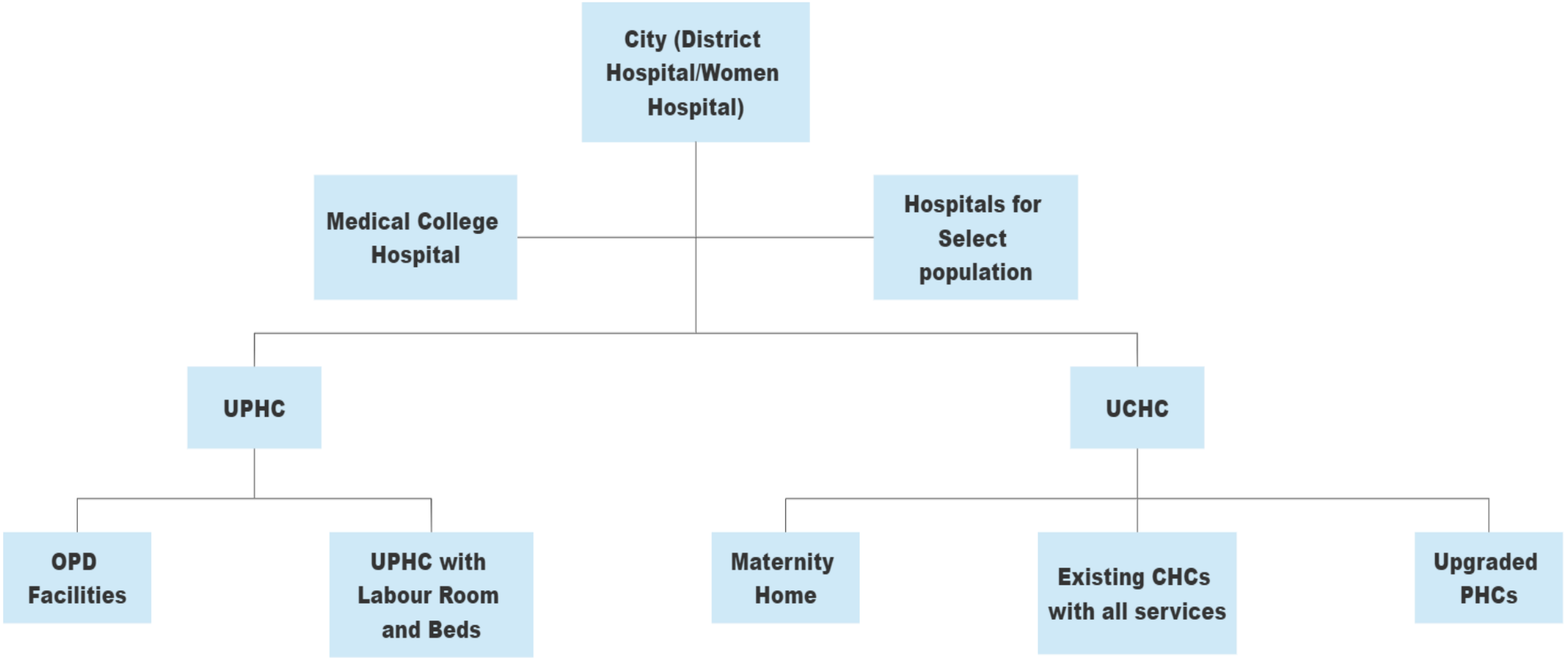
Introduction

- According to the country's 2011 Census, 65.5 million Indians have been living in the urban slums and 13.7 % of the urban population living below the poverty line.
- This unprecedented growth of population in the urban areas have resulted in an increasing demand for sanitation, drinking water, electricity, shelter and healthcare needs.
- Thus, National Urban Health Mission (NUHM) was launched as a separate mission in the year 2013 to effectively address the health concerns of the urban population especially the poor and vulnerable population.
- The NUHM mainly focuses on:
  - The poor population of the urban areas living in the listed and unlisted slums.
  - Other vulnerable population such as the homeless, rag-pickers, street children, rickshaw pullers, construction and brick and lime kiln workers, sex workers and other temporary migrants.
  - Directing the focus of public health system on the provision of sanitation, clean drinking water, vector control, immunization, healthcare etc. for the marginalised urban population.

Urban Healthcare Service Delivery Model of NUHM



Hierarchy of Public Health Facilities in the Urban Areas



Urban Primary Health Centre (UPHC)

- UPHCs are the first point of service delivery providing comprehensive primary healthcare services in the urban areas. Outreach services are an important part in the functioning of the UPHC to make the services available to each and everyone in the community.

- Human Resources at the UPHC:

S. No.	Staff Category	Number
1.	Medical Officer	2 (1 regular and 1 part time)
2.	Staff Nurse	3
3.	Pharmacist	1
4.	Lab Technician	1
5.	Public Health Manager (PHM) or Community Mobilizer	1
6.	Lady Health Visitor (LHV)	1
7.	Auxiliary Nurse Midwife (ANM)	4-5 depending upon the population
8.	Secretarial Staff Including for Account Keeping and MIS	2
9.	Support Staff	1

Public Health Manager/ Community Mobilizer

- PHMs act as a link between the UPHC, the community and the higher levels of health service delivery framework.
- They are responsible for overall management and functioning of the UPHC so that the health services are delivered equitably to the urban population especially the poor and marginalized population in the urban areas.
- This study puts an effort to assess the performance of the Public Health Managers in order to find out if this position has brought any difference in health care service delivery of a UPHC and what can be done to increase the effectiveness of the role of a Public Health Manager.

Literature Review

- It has already been highlighted by several studies done in this field about the issues and challenges which has led to the inaccessibility of quality healthcare services to the urban poor [1].
- A study tries to analyze the role of NUHM and UPHCs across India in delivering quality healthcare to the poor and deprived sections of the urban areas and throws light to some of the major limitations to NUHM achieving its objective – (a) poor coverage, (b) lower budget allocation and (c) shortage of staffs [2].
- Telangana is one of the exponentially urbanising states of India. As per 2011 Census, the urban population constitute of 38.9% of the state's population and this growth in the urban population is much higher than the other states of India [3].
- It was found out from a study conducted in the urban slums of Hyderabad that a majority of the mothers were not informed about immunization of their children during their OPD visits which portrays a lack of effective communication by the staffs of the Urban Health Centres [4].
- It is evident from a study done in the urban areas of Khammam district of Telangana that there is a shortage of regular healthcare workers as well as equipments in the facility and this has aggravated the issue of unavailability and inaccessibility of health services among the urban poor [5].

Need for the Study

- In the year 2001 WHO – University of Durham Meeting Report report highlighted the fact that in order to make Public Health Management a reality in the countries around the world, a cadre of Public Health Managers and practitioners are required who have received multidisciplinary training.
- In India, the dire need was felt of setting up a primary healthcare system that is able to link the community with the UPHC, UCHCs and higher levels of health system in order to ease the process of health delivery. With this, the position of the Public Health Manager (PHM) was introduced for the first time under the Human Resources framework of the Urban Primary Health Centres (UPHCs) with the launch of NUHM [6].
- The role of Public Health Managers were envisaged as a link between the UPHC and the community and responsible for overall management and functioning of the UPHC so that the health services are delivered equitably to the urban population especially the poor and marginalized population in the urban areas overcoming the challenges
- Turns out inspite of introducing the Public Health Managers in the UPHCs, the issues still prevail in the health service delivery in the UPHCs which is unexpected.
- To analyze and understand the gaps or the factors that are hindering in the smooth health service delivery at the primary level this study has been designed.
- There is a wide gap in the literature available for the role of Public Health Manager in health service delivery in the UPHCs and hence, this study attempts to explore the role of a PHM in strengthening the primary healthcare structure in the urban areas.

AIM & OBJECTIVES

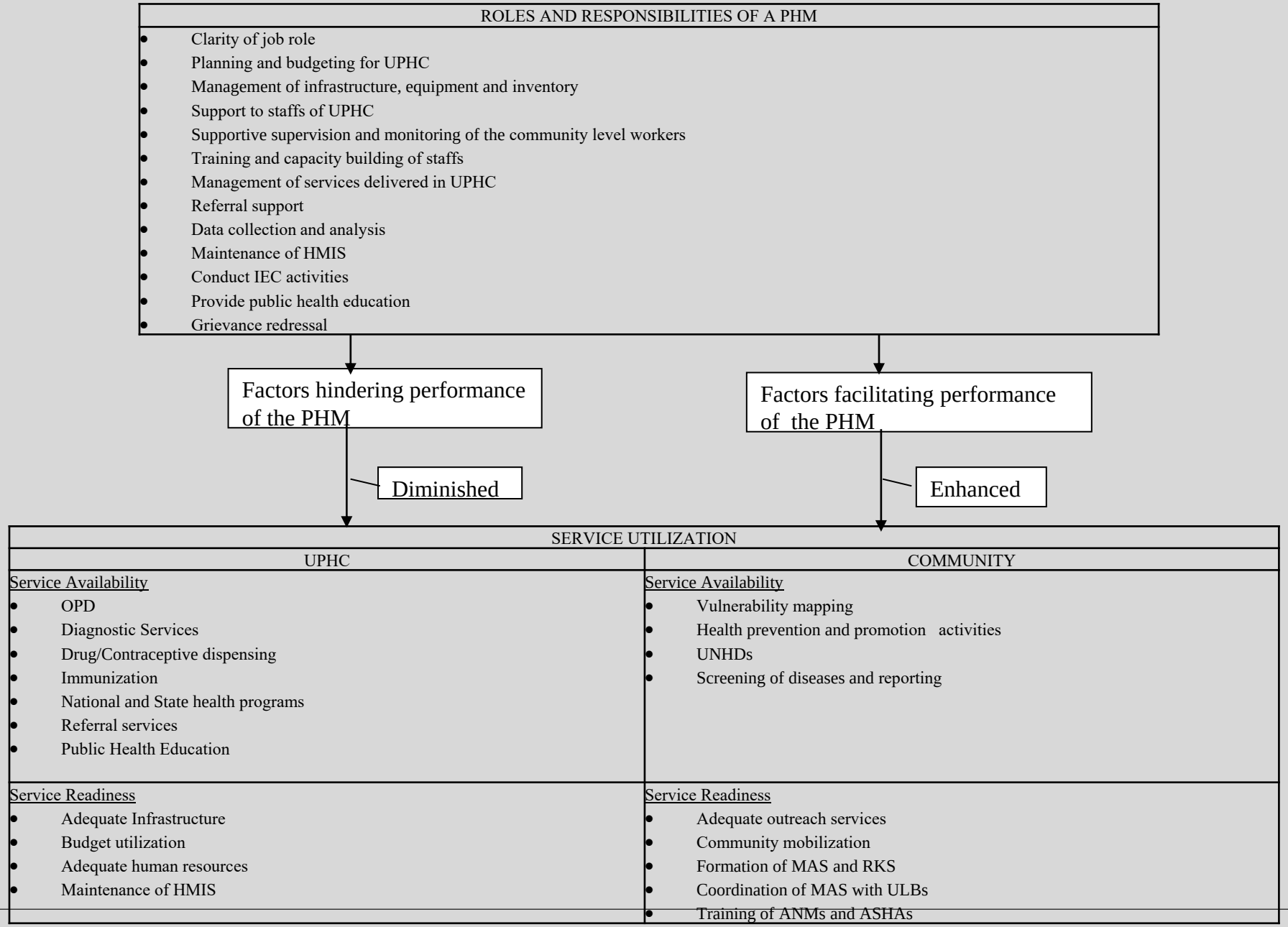
Aim - This study aims to assess the performance of the Public Health Managers (PHM) posted in the UPHCs under NUHM in Telangana, India.

Objectives -

The objectives of the study are:

- To assess the tasks performed by the Public Health Managers (PHM) against their perceived roles.
- To understand how the Public Health Managers are contributing towards improving the utilization of services of the UPHCs.
- To explore the enablers or barriers that influence or restricts their role.

CONCEPTUAL FRAMEWORK


ROLES AND RESPONSIBILITIES OF A PHM
Clarity of job role
Planning and budgeting for UPHC
Management of infrastructure, equipment and inventory
Support to staffs of UPHC
Supportive supervision and monitoring of the community level workers
Training and capacity building of staffs
Management of services delivered in UPHC
Referral support
Data collection and analysis
Maintenance of HMIS
Conduct IEC activities
Provide public health education
Grievance redressal
Factors hindering performance of the PHM
Factors facilitating performance of the PHM
Diminished
Enhanced
SERVICE UTILIZATION
UPHC
COMMUNITY
Service Availability
OPD
Diagnostic Services
Drug/Contraceptive dispensing
Immunization
National and State health programs
Referral services
Public Health Education
Service Availability
Vulnerability mapping
Health prevention and promotion activities
UNHDs
Screening of diseases and reporting
Service Readiness
Adequate Infrastructure
Budget utilization
Adequate human resources
Maintenance of HMIS
Service Readiness
Adequate outreach services
Community mobilization
Formation of MAS and RKS
Coordination of MAS with ULBs
Training of ANMs and ASHAs

METHODOLOGY

Study Design:

Qualitative Study using semi structured interview tool.

Study Area:

The study will be conducted in the selected UPHCs of cities of Telangana. Districts will be selected as:

- Stratified sampling method was used to select the districts and then the UPHCs where PHMs are in place from the cities were selected for the study. All the 33 districts were primarily divided into two groups: Aspirational and Non-Aspirational districts. Out of these two groups, districts where PHMs are not in place were excluded. The districts were then selected keeping in view the performance and progress made by the UPHCs in the districts.
- Four indicators were considered for this selection:
    1. Number of PHM/Community Officer in place
    2. OPD conducted per 10,000 slum population in the FY 2019-20
    3. Proportion of lab tests performed out of total OPD for the FY 2019-20 and
    4. Percentage increase or decrease in ANC registration in 1st trimester of pregnancy from the FY 2018-19 to FY 2019-20.

- All the districts were scored according to the above mentioned indicators. The higher the value of these indicators for the districts, the score is higher and lower score is allotted for lower value of indicators for the districts. Then the individual scores of each district are added up to get a cumulative score for each district and the districts are ranked according to these scores. The district with highest score is ranked the highest and considered as the best performing district and the district with lowest score is ranked lowest and is considered as poor performing for both aspirational and non-aspirational districts.
- Based on the scoring, the districts selected for the study are:

  Aspirational Districts: Bhadradri Kothagudem

  Non-Aspirational Districts: Karimnagar

Study population

The study population consisted of the Public Health Managers (PHM) and the Medical Officer In-Charge (MO/IC) working in the UPHCs of the selected districts.

Study period

The study was conducted for a duration of 3 months and 16 days starting from 22nd March, 2021 till 8th July, 2021.

Study Tools

- The study tool has been chosen in accordance with the study objectives.
- A semi-structured qualitative questionnaire has been prepared for interviewing the Public Health Managers (PHM) and Medical Officer In-Charge (MO/IC)
- 360° assessment will be done.
- The in-depth interviews will be conducted online/telephonically keeping in view the current COVID Pandemic.

Study Sample:

- A total of 8 in-depth interviews were conducted which included 4 interviews with Public Health Managers and 4 interviews with Medical Officer in-charge supervising them from four selected UPHCs from two selected districts.

Ethical Consideration:

- Informed verbal consent will be taken from each and every respondent before the initiation of the study.

WORK PLAN

This study will be conducted in three different phases:

Phase 1: Secondary review

The first step in this study was a detailed background analysis from the available literature including programme guidelines of National Urban Health Mission (NUHM) and its framework document, Government orders, State Programme Implementation Plan and record of Proceedings, various studies and published reports. Based on this background analysis, the study tools were prepared.

Phase 2: Data collection

In-depth interviews were conducted with individual respondents and the interviews were recorded. Interview recorded with each individual was transcripted, followed by cleaning of collected data in order to extract the necessary information. Prior to initiation of the data collection informed consent was taken verbally from each and every respondent before interviewing them.

Phase 3: Data Analysis and Report preparation

Content analysis was done with the information gathered and findings generated for the study. Then, the report was prepared compiling all the findings generated from this study.

STUDY FINDINGS

Background:

NUHM in Telangana

The NUHM framework of Telangana comprises of three levels –

1. Primary level – It includes the Urban Primary Health Centres (UPHCs) and the Community health workers.
2. Secondary level – It includes the Area Hospitals, Community Health Centres (CHC) and Mother and Child Healthcare Centre (MCH).
3. Tertiary level – It comprises of the District Hospitals, Teaching and Speciality Hospitals.

Initiatives in Telangana to strengthen Primary Health Care services in Urban Settings:

- **Basti Dawakhana -**The aim of setting up these facilities in the urban areas mostly in the slums of Telangana is to provide the population with the essential primary healthcare services reducing the Out-of-Pocket-Expenditure (OOPE) on treatment. Each Basti Dawakhana caters to a population of 5000-10000. The staff includes an allopathic (MBBS) doctor, a staff nurse, and one maintenance worker. These facilities function from 10 am to 4 pm at most of the places.
- **Specialist Evening Clinic -** To make the specialist services available to the urban poor, these Specialist Evening Clinics have established in some of the existing UPHCs. These operate between 4:30 to 8:30 pm in the evening 42 such clinics were functional in Telangana as per Telangana Health Medical and Family Welfare Annual Report, 2018-19.
- **Health and Wellness Centers (HWCs) -** SCs and PHCs are being strengthened as Health and Wellness Centers to provide comprehensive healthcare including non-communicable diseases, maternal and child health services. They also provide free essential drugs and diagnostic services.
- **Telangana Diagnostic Services -**There is a provision of free diagnostic service in every public health facility under Telangana Diagnostic Services since April 2018.

Findings:

The responses received from the respondents have been categorized into broad themes and subthemes which help to understand the roles and responsibilities of the PHMs, the institutional mechanisms and human resource management practices and the barriers/enablers that are faced by the PHMs while performing their roles in the UPHCs.

1. Public Health Managers in UPHCs of Telangana:

A. Institutional Arrangements – Past and Present

The UPHCs in Telangana were run by NGOs since early 2000s, the individuals who are posted in the UPHCs as Public Health Managers were absorbed by the NGOs as Community Organizers, whose main role was to act as a link between the community and the health facility. Community mobilization and health education were envisaged as the key roles of the Community Organizer. In 2016, across Telangana the UPHCs were taken over by the Government and the Community Organizers along with other staff were absorbed under National Urban Health Mission.

"Before 2016, we had a contract with the NGO, it was outsourcing by the government. After 2016, everyone was taken under NUHM contract directly without interviews." – PHM, UPHC

B. Absorption into the system and Motivation

Vacancy

The respondents highlighted that the vacancies were highlighted by the NGOs in the first place and it happened in the early 2000s. The vacancies were advertised in the newspapers and in some cases stuck on the walls of the existing health centers and some private hospitals.

"It was in the newspapers and also, they had pasted it on the walls of the rented building of the UHC which the NGO was already running the facility. My friends told me that such a vacancy has been advertised while they were circulating the information."- PHM, UPHC

Appointment & Induction Training

The respondents stressed that there were no induction trainings that happened at the time of joining the NGOs, and they were verbally instructed by the coordinator in the NGO about the roles and responsibilities of the Community Organizer.

"In the appointment letter which I received upon selection also did not have any roles and responsibility mentioned in it, it only said that you have been selected as a Community Organizer. All the work of the community organizer was told orally." – PHM, UPHC

After the transition happened in 2016, few trainings have been conducted by the state for orienting the staff about NUHM. Some of the trainings have also been conducted at the district level. Most of them felt that the refresher trainings must be conducted and some additional skills also must be included in such trainings like computer skills.

"Before 2016, there was no training that had happened, after the transition in 2016 a training was conducted at the state level in Hyderabad. All the staff in the UPHC had gone for the training like the MO, the ANM etc." – PHM UPHC

B. Absorption into the system and Motivation

Motivation

Of the respondents who were serving as PHMs in the UPHCs, some of them had completed graduation in sociology, botany, zoology or commerce. They were engaged either in social work or with some private hospital as a supporting staff prior to joining the NGO. Most of them joined the NGO as they considered it as a better opportunity, however few joined the UPHC as they had interest in the medical field and wanted to serve the community.

"I joined as Community Organizer as I had interest in the medical field and also, I wanted to do Public Service." – PHM, UPHC

2. Roles and Responsibilities of the Public Health Managers

Planning

Most of the PHMs reported role in community level planning process that ranges from preparation of monthly action plans that include plan for monthly health camps for immunization, NCD, MCH services to date wise allocation of camps to the areas depending on the burden of the diseases. The selection of areas is largely done as per Medical Officer's instructions. The action plans also include the supervision and monitoring plan. For the facility level planning process includes gap identification and communication specifically with regards to KAYAKALP and NQAS programmes to facility and district level supervisors. However, most respondents mentioned they have limited role in the facility level planning process.

"PHM is mostly engaged with the outreach related activity for facility we have other staff and I am here, then staff nurse, pharmacist so we are taking care of the planning for the facility and that sufficient also. We generally ask PHM to manage the field level implementation of national programmes, organizing medical camps, supervising ASHAs, ANMs."-MOIC, UPHC

Most of the respondents reported that the budget related planning activities are done by accountant under the supervision of medical officer. The financial decision and allocation done by the hospital development society that comprise of representatives from facility and district health officials, municipal corporation, local leader and MAS representative. The society meets on a monthly basis. PHMs mentioned their contribution only around identifying the resources that are required for the UPHCs under budget planning.

"*UPHC gets the Hospital Development Committee, for every hospital development committee, corporate chairman is there, and there is a budget officer, MAS member is also there. Every month meeting is organized and every required issue is raised and discussed in front of committee and also how much budget is for UPHC is also decided and budgeting is done accordingly. Hospital Development Committee meetings are done twice a month and if something important comes up we organize extra meetings in a month"*-PHM, UPHC

"Generally, we have accountant who looks after the budget part. PHM only has to submit the bill to the accountant who further checks the bill and reports it to DMHO."-MOIC, UPHC

Implementation

Tendering of Civil works:

Most of respondents reported that no major civil work happened in the recent years and tender process for the civil works done from district level. However minor repair and maintenance such as painting of the facility building were the responsibilities of PHM under the supervision of facility in-charge by engaging local labors.

"Last year in 2020, portions of the UPHC were painted and the repairs were done for the washroom fitments and blockages. We also made a separate shed for covid testing for the people. The deputy DMHO is the nodal officer so the tendering process was done by his office, my work was limited to monitoring of the civil works."-PHC, UPHC

"All of the work is done through district office, I have no role in this matter."-PHM, UPHC

Bio-Medical Waste Management, Cleanliness and Hygiene at the UPHC:

All the respondents mentioned they were involved in ensuring the collection of bio-medical waste by the agency. However, bio-medical waste management practice within facility is the responsibility of Staff Nurse. All the respondents agreed that they are responsible for ensuring the adherence with cleanliness and hygiene maintenance as per the guideline and monitor on a daily basis.

"Dumping yard is 4 kms away from city. They take away, and my work is just to make sure he comes every day and if they do not come, I enquire the reason and report to medical officer." - PHM, UPHC

"The sweeper is responsible for maintaining cleanliness in the UPHC facility, before covid the facility was being cleaned once a day, but since covid pandemic started, the facility is being cleaned twice daily." -PHM, UPHC

Implementation

Equipment, Inventory and Stock maintenance:

None of the respondent indicated presence of annual maintenance contracts for the equipment/ machines nor the existence of quality system for calibration of equipment. In most facilities' equipment/machines repair done by local mechanics arranged by PHM while in few cases arranged by DMHO.

All the respondent mentioned that inventory and stock management are the responsibilities of Pharmacist and the places where pharmacist post was vacant managed by Staff Nurse. However, PHMs mentioned they often support Pharmacists/Staff Nurse in the maintenance of stock registers.

"There are no maintenance contracts in the district, we (me and the medical officer) have to get the repairs done for the machines and bear the costs from our pockets." -PHM, UPHC

"Inventory and stock management look after by the staff nurse only. In case if staff nurse on leave and busy with other work, then only I look after and manage these." -PHM, UPHC

Mahila Aarogya Samiti (MAS) formation, meetings and committees:

Most of the respondents mentioned that they formed and organize Mahila Aarogya Samiti (MAS) monthly meeting. The number of MAS groups formed by each PHM ranges from 12 to 15. MAS comprises of group of community people, in which community member are encouraged by the PHM to discuss, learn and engage in community level health issues and mobilizing the community in decision making that enable them to act to address local health problems. In addition, PHMs also uses this platform for health promotion and community awareness activities.

"I know about MAS, Mahila Arogya samiti is made by group of 15 to 20 women of community. They identify any problem in ANC, PNC, NCD, Fluorosis, Tb within community and we conduct awareness campaign in the meeting also. MAS has 1016 people and one center has 215 groups. I organize once a month meeting with MAS." -PHM, UPHC

Monitoring and supervision:

All PHMs reported responsibility of field level monitoring and supportive supervision to the ASHAs, ANMs and MAS members in implementation of programmes such as routine immunization, ANC, PNC services, NCD services, elderly care. They plan and schedule these visits for supportive supervision and report the observations to the medical officer in-charge and district programme nodal, and the officer in-charge of facility also visited in a pre-designed reporting format and or checklist.

Number of field visits for PHMs ranges from 3 days to 30 days in a month. Few respondents also mentioned the online monitoring of few outreach services such as ANC, KCR kit distribution, NCD, vaccination and COVID testing.

"We do field visits every day to monitor the ASHAs and ANMs for their field activities in the field like NCD screening, and also MCH activities have been added to the activities that I need to monitor every month. I also monitor the elderly care services which are offered every Thursday." - PHM, UPHC

"I provide supportive supervision in all the outreach activities related to all programmes, and also look after the activities at the UPHC. Similarly, while monitoring the immunization activities, I interact with the PRIs and ensure the activities are done properly." - PHM, UPHC

Data Collection, Collation and Corrections:

For HMIS, beneficiaries level data collected by ANMs while facility level data collected by the Staff Nurse, Pharmacist, Lab technician from their respective department. These data then filled by the DEO while PHM ensure the data completeness, accuracy on day-to-day basis.

"The data source are the ANMs, who collect the coverage data weekly in fixed formats. I often collate the data and use it to prepare the reports, the medical officer supports me in this. The programs that we have data collected on a regular basis are immunization programs, NCD programs, COVID Testing and Immunization, KCR Kits, OPD data. IDSP data is also collated from the OPD data, we share the s, p and l forms weekly from the UPHC, the s forms are sent by the ANMs, the p forms are sent by the pharmacist and the l form is sent by the lab technician. I also have the responsibility to cross check the data reports submitted by the ANMs to avoid inaccuracies, in case there are inaccuracies it is corrected with the help of the MO."- PHM, UPHC

3. Perceived Barriers

A. Issues arising due to staff shortage:

The respondents highlighted that most of the UPHCs have high vacancies and the reason is delayed recruitment. Due to shortage of staff, they have to handle the multiple work. The most common amongst all is the shortage of Medical Officer, ANM, Lab technician and Pharmacist. Due to which PHM is over-loaded with the other work, due to which their time for the other activities hampers.

"In the UPHCs high number of vacancies and delayed recruitments, and there are UPHCs in the district and only 2 Data entry operator cum Accountant. They are working in rotational basis and handling all the UPHCs. That creates difficulty in handling all the work and I am assisting the ANM in the data entering."- PHM, UPHC

"Since, there are many vacant posts in the facility, so, I have to do handle my work also and complete the additional work. Due to which I am unable to finish my assigned work in time."- PHM, UPHC

B. Other issues – salary, contract management etc.

Most of the PHM have raised the concern of dissatisfaction for the salary and other allowance. In 2016, the formal letter was issued mentioning the Community organizer given the charge of Public Health Manager. But they haven't received any written communication on contract letter. Due to which the officials do not consider them the authorized person. This creates the dissatisfaction among them and lack of clarity on their roles and responsibilities.

"The basic salary of a supervisory cadre like us is in the range of xxxx, and on the other side the similar cadre in the PHC gets a basic salary twice more than me, and apart from the basic salary they get another perk."- PHM, UPHC

"We haven't received any written contract letter from the officials, and due to which many a times we are not considered as the main authorized person, this creates a dissatisfaction among me."- PHM, UPHC

4. Perceived Enablers

A. Support from the Supervisors and other PHC staff.

PHMs perceived high degrees of satisfaction with the degree of coordination, mutual trust and cooperation with the medical officer, ASHA and ANM that enable them to perform their tasks more effectively.

"Yes, our medical officer provides me with all kinds of support, in case of any problem programme nodal also support me on my outreach activity."-PHM, UPHC

"The medical officer provides me with all the required staff. Medical officers themselves visit the camps and provide the treatment, they also provide necessary drugs and consumables required for camps." -PHM, UPHC

CONCLUSION

Conclusion:

- The Public Health Managers are an integral component of the Urban Public Health System and they were envisaged to play a multitude of roles to ensure proper functioning of the Urban Primary Health Centers. For the UPHCs in Telangana they act as a bridge, linking the community and the UPHC.
- Most of the PHMs were performing the tasks that were assigned in the TOR, but from the study it was found that the PHMs played a limited role in the decision-making process at the UPHCs due to their non-technical backgrounds.
- The PHMs were effectively engaged in field level planning, implementation and monitoring of programmes such as Routine Immunization (RI), MCH outreach services, organizing medical camps, IEC activities by engaging multi-sectoral convergence and wellness platforms. However, their roles pertaining to technical programs, critical decision making, management tasks and functions were partially or completely delegated to other staff in the UPHCs.
- The PHMs in the UPHCs of Telangana, have been associated with their concerned UPHCs for duration of 8-20 years. Most of the PHMs reported factors like low salaries as a major demotivating factor and considered that absence of formal contracts was a major reason that led to non-recognition of their contribution towards functioning of the UPHCs.
- In order to ensure that the UPHCs effectively cater to the needs of the urban population in Telangana, steps must be taken to address the pressing issues like lacking capacities of the current PHMs in the UPHCs, low salaries and poor contract management of the PHMs as well as facilitating recruitments to rationalize the work load on the PHMs.

References

- Chavali, A (undated): “Urban Primary Healthcare and Private Sector in India: A Brief Analysis of Kriti, Swasth India and Viva Sehat,” Centre for Health Market Innovation, Washington DC, USA.
- Alderslade, R., & Hunter, D. J. (1994). Commissioning and public health. *Journal of management in medicine*, 8 (6): 20-31.
- Kumar, S., Kumar, S., & Gupta, B. (2018). Urban health: needs urgent attention. *Indian journal of public health*, *62*(3), 214.
- Kumar, S., Kumar, S., & Gupta, B. (2018). Urban health: needs urgent attention. *Indian journal of public health*, *62*(3), 214.
- AS & MD letter NUHM, 29th September 2014
- DO letter from Secretary (H & FW) to the Chief Secretaries, 12th January 2017
- John, Denny & Chander, SJ & Devadasan, Narayanan. (2008). National Urban Health Mission: An analysis of strategies and mechanisms for improving services for urban poor. 10.13140/2.1.2036.5443.
- Lahariya, C. (2019). Basthi Dawakhana of Hyderabad: The first Urban Local Body led community clinics in India. *Journal of family medicine and primary care*, *8*(4), 1301.

References

- Gangadharan, K. (2020). Improving Public Health Care in India through Urban Primary Health Centres-Trends, Progress and Concerns. *Indian Journal of Public Health Research & Development*, *11*(5).
- Kumar, S., Sharma, A., Sood, A., & Kumar, S. (2016). Urban Health in India: Policies, Practices and Current Challenges. *Journal of Health Management*, *18*(3), 489-498.
- REDDY, B. A. Urban Infrastructure: A Special Reference to PPP in Telangana State.
- Reddy, M. P., Thaduru, R. C., Khade, H., & Raju, U. (2017). Primary immunization coverage in lower socioeconomic strata in Telangana–Perceptions & pitfalls Perceptions & Pitfalls in Primary Immunization Coverage. *IP International Journal of Medical Paediatrics and Oncology*, *3*(3), 127-133.
- Rambabu, A., Gopinath, G. S., & Srinivas, B. (2020). Growing Urbanization, Health Infrastructure, and Vector-Borne Diseases: A Study in Khammam Municipal Corporation, Telangana State. In *Urban Health Risk and Resilience in Asian Cities* (pp. 143-147). Springer, Singapore.
- John, D., Chander, S. J., & Devadasan, N. (2008, July). National Urban Health Mission. An analysis of strategies and mechanisms for improving services for urban poor. In *National Workshop on Urban Health and Poverty, New Delhi*.

THANK YOU