MASTER OF PUBLIC HEALTH

Johns Hopkins Bloomberg School of Public Health

PRACTICUM REPORT

By

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Cohort 7

2019-2021

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TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr Shantam Mishra,** student of Master of Public Health Program offered by IIHMR University, Jaipur in cooperation with Johns Hopkins Bloomberg School of Public Health, Baltimore has undergone Practicum Training at **All India Institute of Medical Sciences** from **27/01/2021** to **27/02/2021**.

The Candidate has successfully carried out the study designated to her during practicum training and her approach to the study has been sincere, scientific and analytical.

The Practicum Training is in fulfilment of the course requirements.

I wish her success in all her future endeavours.

Dr Seema Mehta
Practicum Advisor

CERTIFICATE BY SCHOLAR

This is to certify that the Practicum Project titled ‘Evaluation of 27 UPHCs of the state of Uttarakhand operating under PPP model’ submitted by me, **Dr Shantam Mishra** with Enrolment No. 043 under the supervision of **Dr Ajeet Singh Bhadoria** for award of **Master of Public Health** carried out during the period **27/01/2021 to 26/02/2021** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Dr Shantam Mishra

MPH Cohort 2019-21

All India Institute of Medical Sciences Rishikesh
अखिल भारतीय आयुर्विज्ञान संस्थान ऋषिकेश-249203

AIIMS/RKSH/Dean (A)/21/ 1802 / 06.03.2021

To Whom So Ever It May Concern

This is to certify that Dr Shantam Mishra D/o Shri Sarvesh Narain Mishra has completed her one month MPH externship in Department of Community & Family Medicine at All India Institute of Medical Sciences, Rishikesh from 27 January 2021 to 26 February 2021.

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ABSTRACT

Along with a rise in population, India is approaching the effects of rapid urbanization coupled with increasing rates of migration from rural to urban areas, settling within or infringing urban dwellings. The equilibrium between the health needs of this evolving urban population and the health delivery system in place is precariously held. PPP models in healthcare are increasingly being experimented with to rise up to managing health collaboratively. This report explores the functioning of 27 UPHCs operating under the PPP model in 3 districts within the state of Uttarakhand, India, with the objectives of assessing the efficiency of PPP model through the performance of UPHCs and, identifying bottlenecks affecting the execution of health activities at the UPHC level and restricting their maximum potential. Six stratum of study participants were interviewed to include in the study namely the CMOs of 3 districts, NGO managers of 5 NGOs under these districts, MOIC at 27 UPHCs, 27 paramedical staff from each UPHC, 5 consulting patients (total 135) and 10 community members (total 270) from the vicinity of each UPHC. Results inferred the performance of NGOs in health service delivery varying predominantly for selected NGOs. Common challenges were reiterated by several stakeholders such as the irregularity of financial flow, irregular staff remuneration, lack of resources especially drugs and irregular communication between partners. A depth of evidence is lacking in the understanding of PPP model in healthcare sector to guide policy makers towards evidence-based decisions.

Keywords: Public-Private Partnership model, Urban Primary Healthcare Centre, National Urban Health Mission

ACKNOWLEDGEMENT

I feel grateful towards the complete Department of Community and Family Medicine at All India Institute of Medical Sciences Rishikesh for providing me with a homely working environment full of opportunities to explore my skills and in honing practical competencies required in my ventures in the field of public health ahead.

I am specially indebted to Dr Vartika Saxena, Head of the Department of Community and Family Medicine for accepting my plea to be associated with the esteemed organization as the first ever instance of MPH externship within the institute. I found her generosity in providing me the freedom to explore my capacities boundless and inspiring.

I have been bound to Dr Seema Mehta since the induction of MPH degree program as a mentor in academic and personal development. Her constant observation, motivation and appreciation charted a path for the confidence required to rise up to meet the professional aspirations that I find building within. And I find myself grateful to her yet again as my practicum guide. It is my infinite fortune to find her as an inspirational beacon in the public health realm.

I owe an appreciation towards Dr Ajeet Singh Bhadoria whose steadfastness and unwavering energy proved an endless stream of courage for fulfilling my responsibilities during the practicum, and hope for looking up towards the incalculable prospects that lie ahead in my professional pursuits.

Lastly but importantly, I wish to thank the students of MPH curriculum at AIIMS Rishikesh for their immense co-operation, camaraderie and rush of ideas for igniting, exploring and analysing my imagination and competencies in areas of public health concerns. I found them complementing and erasing the deficiencies I realised within myself.

After having thanked the guidance earned in this dimension, do I thank the Ultimate Guide for placing me on a path worth thankful for.

Dr Shantam Mishra

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ABBREVIATIONS

AIIMS	All India Institute of Medical Sciences
ANC	Ante-natal Care
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
CMO	Chief Medical Officer
DGUS	Dharam Gramin Utthan Sansthan
GNM	General Nurse Midwife
LHV	Lady Health Visitor
MBBS	Bachelors in Medicine and Bachelors in Surgery
MOIC	Medical Officer In-Charge
MAS	Mahila Arogya Samiti
NGO	Non-Governmental Organization
NUHM	National Urban Health Mission
OOPE	Out of Pocket Expenditure
PNC	Post-natal Care
PPP	Public Private Partnership
RKS	Rogi Kalyan Samiti
SPD	Society for People's Development
UPHC	Urban Primary Healthcare Centre

CHAPTER 1: INTRODUCTION

Health sector of the present India is governed by various factors. Rapid urbanization, the rural-urban divide, advents in technology, the socio-economic standing of population, growing private entities to support health and sporadic availability of resources are few that decide the demand and supply of healthcare services, in the urban India as in rural India. Coupled with the steadily rising rates of urbanization are the rural pull and push factors that decide their migration to urban areas. The urban sector in its journey of improving the built environment to accommodate the influx of residents is ill-prepared to match the needs and demands of the growing population. The mismatch results in marginalization of urban pushing them in categories of urban poor and slum dwellers thereby feeding a cycle of vulnerabilities.

Urban India faces double burden of disease with one section of under-privileged suffering more prevalently from infectious disease while the urban rich on the other spectrum progressing towards the epidemiological transition with rising co-morbidities of non-communicable disease aetiologies. The section of the society that is not as privileged as the upper urban class on encountering health needs suffers from out-of-pocket expenditures to maintain health status, more often than not falling into a conundrum of health, hunger and poverty.

In the evolving healthcare sector with greater magnitude of private and non-profit partners with a stronger reach within the community at play, the propensity of health beneficiaries choosing private/non-profit health providers is also on the rise. They are advantageous over their public contemporaries in frequency and location of placement. With operational skills and competencies these organizations have been supporting the nation in managing the health requirements of the people in its vicinity.

Realizing the potential of engaging private and non-profit entities as partners in urban health, the National Urban Health Mission seeks to strengthen the health delivery structure of urban India systematically.

Owing to innovative and diverse methods of partnership in health applied across the states of India, there lies a lacuna in the evaluative evidence of performance of PPP models. It restricts the solution seeking mechanism for the challenges faced thus far and establishment of counter-active strategies to overcome them.

CHAPTER 2: BACKGROUND

2.1 THE SCENARIO OF URBAN INDIA

India is home for billions of people with as fast growing an economy of the times worldwide as with a fast-growing population. From 121.1 crores in 2011, the population of India is projected to increase to 152.2 crores by 2036. This 25.7% surge in population in quarter of a decade translates to rise in density of people from 368 to 463 per square kilometre.[1] Coupled alongside is the rapid urbanization rates spreading nationwide. Census of India 2011 reports a 31.8% of total population residing in urban areas.[2] This translates to 377.1 million people nationally[3] and which is projected to increase to 38.2% by 2036. Of the projected 25.7% total population growth by 2036, this rising urban population is estimated to contribute 70% volume to it[1] and is expected to add 416 million residents in urban areas by 2050.[4]

Census of India 2011 observed a decline in growth rate of the rural population since 1991 but a spurt in urban population.[3] The availability of better opportunities for employment, various services and facilities like health and education, accessible governmental schemes and services, etc. influence the push and pull factors for the rural population that lead to an urban shift. In conjunction with a climbing growth rate in national population, the rapid rates of migration from rural India are contributory to urban population growth. While the phenomenon in starker in states most densely populated like Uttar Pradesh, Maharashtra and Madhya Pradesh, it is beginning to touch others as well.

Even though only for 31% urban residents, the increasing rise of population seeking residence in urban settlements gives way to distorted and unorganized urban dwelling patterns with an increasing rise in slums outlining urban areas. Census of 2011 categorizes an Identified Slum as “A compact area of at least 300 populations or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities in the State/UT” [5] The Census of 2011 includes towns/cities with a minimum coverage of 20,000 population from which the data on slums was collected in contrast to the preceding Census of 2001 which included towns/cities with a coverage area of 50,000 population, giving a greater scope at obtaining data on housing and amenities along with the demographic and socio-economic status. Different States have devised different definitions tailored to the unique equations, formulating them on the basis of built

environment, occupational and housing hazards, condition of water sanitation and hygiene, and quality of life. According to the NSSO Slum Survey of 2012, 66.3% of these slums are enringed by urban dwellings.[5] Data collected from 2613 towns/cities reporting slums, it has been evidenced that 22.4% of the total population of these towns/cities is formed with slum dwellers.[5] Growing industrialization is contributory in pushing rural populace towards urban areas for employability, its tenure and certainty deciding the residential tenure and the kind of residence sought that has implications on health for them.[6] Factors like such challenge the proper coverage and monitoring of this segment of population.

Influencers of urbanization control the division of resources among the constantly adding population. However, urban settlements ill-equipped to handle the constant influx result in unsystematic establishment of ever-growing slums. It has effects on their biome, the quality of life, just use of natural resources, education, health, hygiene and unmet needs. Owing to the built environment, this segment of population ails from health needs for infectious and contagious diseases predominantly like Tuberculosis, Malaria, enteric fever, parasitic and diarrhoeal infections to name a few. Knowledge of nutritional status and its monitoring is consequently imperative within this section of populace.

2.2 THE HEALTH BURDENS OF URBAN INDIA

Urban India paints an inverse canvas in explaining the population dynamics. While it is composed of the privileged and prosperous with needs fulfilled instantly, the marginalized section struggles to meet basic needs meet. While the marginalized suffer from diseases of infectious aetiology, the upper urban class has taken the epidemiological shift with a greater prevalence of non-communicable disease like obesity, diabetes and hypertension. And while one spectrum of this society can claim private health insurance, the other finds itself debilitated with out-of-pocket expenditures (OOPE) to maintain health status.[7]

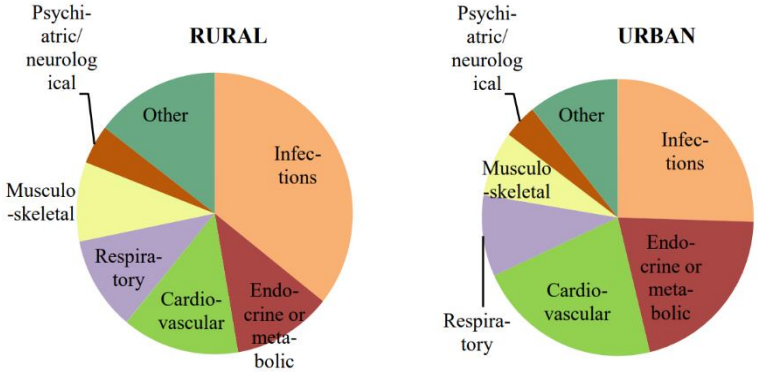


Figure 2.1. Pie chart gives the breakdown of diseases and morbidities between rural and urban population according to type of ailment.[8]

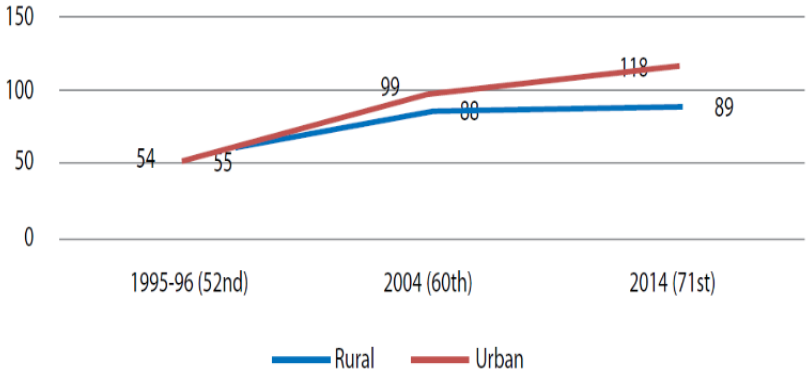


Figure 2.2. Graph represents the morbidity rates in rural and urban areas from 1995-2014.

Source: NSSO Data

With the increasing population influx and unprepared plans for accommodating it in the urban settlement areas, the demands for health services become diverse. A mismatch between the demand and supply of health services in such a scenario has potential of establishing a vicious cycle between the economic status of a person and his health. The India Wage Report suggests that the average wage of an Indian was INR 247 in 2011-12.[9] The NSS data of 2010-2011 reports that the average wage of the working class falls between 15-59 years of age from urban areas is INR 469.8 and INR 366.1 for men and women respectively.[10] Influenced by extendibility of government health schemes and policies to cover the spectrum of urban population, division of public resources, privatization of health market and an unawareness for the provided schemes, this sector of society finds itself attracted easily towards private partners in health and incurring OOPE. 77% of this OOPE towards health is expended on drugs and diagnostic services alone by the urban households of India.[11][7] Unfortunate incidences like hospitalization for any reason or chronic illness worsens the economic stability of the urban poor. Neglected factors like travelling expenses and expenses of attendants associated with OOPE incurred on health add to the total cost borne.

80.9% urban population is not covered by any form of health insurance. While 8.9% of them are covered by governmental health schemes, 3.8% are covered by private insurance companies. 44.3% urban resident approach private clinics/practitioners for treatment of common ailments in the stark contrast to a mere 26.2% of those seeking advice from government or public hospitals. The average expenditure borne by an urban citizen per case of an ailment amounts to INR 334, INR 1038 and INR 863 when healthcare is sought from government/public hospitals, private clinics/hospitals and NGO/trust based organizations respectively.[8]

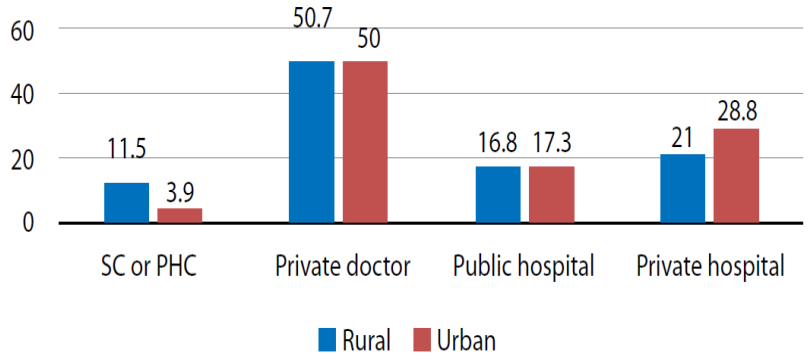


Figure 2.3. Graph represents the preference of health facilities of rural and urban population for seeking out-patient care.

Source: NSSO Data

2.3 THE SUSTAINABLE DEVELOPMENT GOALS

To achieve universal health coverage, Sustainable Development Goals have elements that can be approached to realize it. They are as follows:

SDG 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
SDG 3	Ensure healthy lives and promote well-being for all at all ages.
SDG 6	Ensure availability and sustainable management of water and sanitation for all.
SDG 11	Make cities and human settlements inclusive, safe, resilient and sustainable.

Of the SDGs enumerated, targets under SDG 3 which aims at achieving "Good health and wellbeing" are of significance for the impact of a distorted urbanization pattern on health of the population. They can imperatively be referenced to timely manage the health needs of the diverse population to maintain an equilibrium of supply of services to the altering demands of the demographic distribution of the nation.

TARGET 3.1	By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births.
TARGET 3.2	By 2030, end preventable deaths of new-borns and children under 5 years of age

TARGET 3.3	By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases
TARGET 3.4	By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being
TARGET 3.7	By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.
TARGET 3.8	Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

2.4 THE SPAN OF PRIVATE PARTNERS IN HEALTH OF URBAN INDIA

In regards to the health market force, the urban India is advantageous in the deep-rooted private partners at play. Approximately 3.2 million NGOs are registered in India amounting roughly to 4 NGOs in a population of 1000.[12] Only 3% of this magnitude is dedicated towards health nationally, however, they are distributed equally between the rural and urban sectors. 14.3% of NGOs based in Uttarakhand that provide health services are operational solely through urban areas in contrast to the 4.9% operating exclusively through rural areas. The rest 80% NGOs of Uttarakhand have a hold of both rural and urban areas.[13]

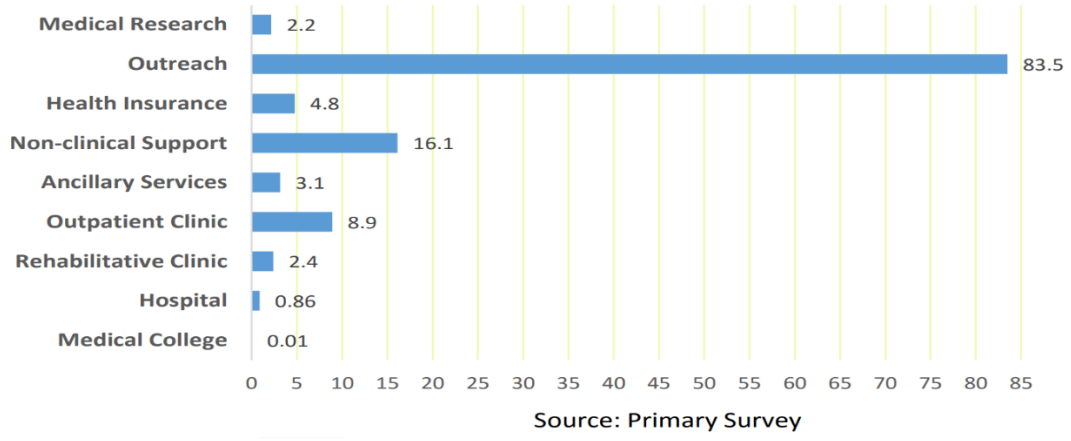


Figure 2.4. Graph depicts that a large portion of NGOs (84%) associated with health delivery services are engaged in outreach activities.[13]

Of the total, 67.8% of the outreach activities are directed exclusively towards improving awareness about health in the community with an equivalent expenditure incurred for the same.[13] In the State of Uttarakhand, of the total NGOs directed for health, 71.3% are engaged in outreach activities through health awareness programs, 10.4% through surgical camps, 60% through diagnostic camps, 26.3% through immunization camps, 12.4% through blood donation drives and 19.4% through ANC/PNC services and activities. [13]

2.4 THE NEED FOR NATIONAL URBAN HEALTH MISSION

Suggested in 1946 by the Bhore Committee as a functional unit for provision of health services as accessible to the population as possible, the concept of PHC seeks to accentuate preventive and promotive health services. While designed keeping in view the rural India, it inspires systematic planning and operationalizing of health delivery for urban population as well.[14] In contrast to the scenario of rural India which is progressively being covered by stronger components and network of National Rural Health Mission, the urban focus lacks standardization of quality and norms. Where PHCs are more strongly calibrated to the health needs of the rural residents, the PHCs from urban areas prove a pandemonium of renditions of the same and the services provided through them. The lack in uniformity in quality and care results in randomness of placement of PHCs with variations in basket of service accessible across urban population and its adequate coverage.

National Urban Health Mission (NUHM) was introduced as a submission under national Health Mission in 2013 with efforts directed at strengthening the health delivery system in light of the juxtaposed urban population unable to access health services. The framework of PHCs at rural level is drawn well upon by the NUHM to introduce Urban Primary Healthcare Centres (UPHC), tailoring its services to the unique health needs of the urban citizens.

A UPHC may cover a population between 50,000-75,000 depending on the density of population across changing terrains. Of the total population covered by each, a UPHC undertakes the healthcare of 25,000-30,000 slum dwellers. It should be located within a radius of 500 meters from the nearest slum area to secure the vulnerable population within reach. The services are however accessible to all including those falling out of its catchment area. Since it caters to the population on outpatient (OPD) basis only and acts

as a primary referral unit for special cases, daily 8 hours of functional service duration has been suggested by NUHM making sure it aligns with the occupational working hours of the urban.

NUHM sanctions post for a Medical Officer in-charge (MOIC), a relieving/2nd MO, Lady Health Visitor (LHV), nurse, laboratory technician, pharmacist, Public Health Manager and a Monitoring and Evaluation Unit. It sanctions 3-5 vacancies for the post of Auxiliary Nurse Midwife (ANM) and 3 support staff at each UPHC. If need is evidenced, NUHM grants for specialist care clinics on weekly basis. The ANMs are pivotal in the health assessment and monitoring of the underlying community. They supervise Accredited Social Health Activists (ASHA) of the area in conducting a health needs assessment to gauge the health requirements through data collection from each household. The ASHA employed on a target-based incentives system. They are supported in this task by the members of Mahila Arogya Samiti (MAS) whose members are women selected from the same community. MAS as a unit is provided a monthly fixed amount as a form of incentive to the social workers and to draw finance from as need calls for resources. The ANMs are responsible for the compilation and segregation of obtained data in indicating the health status of the community, disease surveillance, control of infection and the form of outreach services required for it. The ANMs are also responsible for maintaining records on maternal and child health of the community, cases of institutional and non-institutional deliveries, the health facility where delivery was conducted and the immunization status. Inclusion of members of the community like ASHA and MAS in the health assessment is aimed to instil a unity for achieving a healthy status enclosed within the patient-provider loop.

UPHC forms a node of services encompassing ante-natal and post-natal care, immunization, family planning, blood testing and diagnostics, for treating common ailments and for outreach activities. Serviced to operate on an OPD basis, outreach services and referral system form its pillars of support to the community. ANMs are oriented to NUHM through induction trainings for proper conduction of outreach services. Outreach is ideally organized monthly primarily as Urban Health and Nutrition Day (UHND) or as special health camps for availing health services specific to need assessed.

As a primary point of healthcare for the urban poor and vulnerable, the UPHC acts as a significant link in the referral system. The responsibility of identifying suitable referral

health facilities for patients of special medical needs including those oriented for de-addiction, rehabilitation, mental health and counselling. They are encouraged to seek support from the services obtainable by the NGOs operating within the community. Once at the referred facility, the UPHC maintains responsibility of following up with patients to ensure proper care is provided.

NUHM wisely finds convergence with a number of ministries like Ministry of Health and Family Welfare, Ministry of Urban Development, Ministry of Housing and Urban Poverty Alleviation, and national health programs like Revised National TB Control Program (RNTCP), National Vector Borne Disease Control Program, National Program for Prevention and Control of Cancer (NVBDCP), Diabetes, CVD and Stroke (NPCDCS).[15][7]

Recognizing the strength of reach the private and non-profit partners in health have in the community of their vicinity, their profuseness, and the positive response they gather with evidently increasing magnitude of people availing health services through them, NUHM realizes the impact effective multi-dimensional partnerships can have on the reach of health delivery. It realizes the deftness of capabilities, competencies and resources that private/non-profit partners can bring to the health sector and encourages them to share the burden of health as a fundamental right of people, by expanding the health foundation.[7]

PPP models in healthcare sector are being innovatively experimented with more frequently in various states of India.[16] PPP service model of healthcare delivery applied under NUHM by the state of Uttarakhand finds funds allocated through the central government which are passed to State for distribution amongst the UPHCs of the various districts. These funds are divided between the infrastructure, staff remuneration, drugs and reagents costs. Resources required to conduct the various Information Education and Communication (IEC) activities in the community are also supplied through the State. The private partners in health for their managerial and operational skills are responsible for maintaining competent staff strength. Though services for patients are free of charge, they are required to pay a small upfront sum as user fee at their first visit.

CHAPTER 3: METHODOLOGY

3.1 STUDY SETTING

Carried out in the state of Uttarakhand, the project aims at evaluating 27 UPHCs operating under the Public Private Partnership model from 3 districts namely Dehradun, Nainital and Haridwar in the duration of February to March of 2021. Twelve UPHCs from Dehradun, four from Nainital and eleven from Haridwar were evaluated in this period. Six strata of stakeholders of NUHM were identified and interviewed personally through structured questionnaires specific to each stratum. These were aimed at Chief Medical Officer, NGO managers of the UPHCs, paramedical staff and Medical Officer at the UPHC, five patients consulting at each UPHC and ten members from the community. In the denser population of Dehradun and Haridwar, two independent NGOs were operational that provided an insight into the management of a total of five NGOs.

The sample population inclusive of presentation of each hierarchies namely CMO, NGO managers, MO, paramedical staff, patients and community members was selected in attempt to capture a robust snapshot of the efficiency of a PPP model, making it simpler to understand the occurring incongruities from each level of perspective. Patient and community being the primary stakeholders in health, guaranteed their inclusion to gain honest confessions about the performance of UPHCs, thereby completing a feedback loop. Where interviews of CMO and NGO managers of each district could provide for assessing managerial and operational aspects of the performance of the UPHC, interviews from MO and paramedical staff were capable of informing us of the effects they have at executional level. In such a manner, efficiency of each UPHC was assessed through the responses and preferences of patients and community members

S.NO.	DISTRICT	TOWN	UPHC	NGO
1.	DEHRADUN	Dehradun	Jakhan	Samarpan Society
2.			Reethamandi	
3.			Majra	
4.			Seemadwar	
5.			Gandhigram	
6.			Kargi	
7.			Bakaralwala	Society for People's Development
8.			Chunnabhatta	
9.			Bhagat Singh Colony	

10.			Deep Nagar	
11.			Khurbura	
12.			DL Road	
13.	Nainital	Nainital	Ram Nagar	Bombay Hospital
14.		Haldwani	Kathgodam	
15.			Rajpura	
16.			Shani Bazar	
17.	Haridwar	Haridwar	Bhupatwala	Dharam Gramin Utthan Sansthan
18.			Tibdi	
19.			Jwalapur 1	
20.			Jwalapur 2	
21.			Kankhal	
22.			Ram Dham Colony	
23.		Roorkee	Purani Tehsil	FRIENDS
24.			Ganeshpur	
25.			Chandrapuri	
26.			Mahigram	
27.			Adarsh Nagar	

Table 3.1. gives the breakdown of UPHCs operational under respective NGO within the three districts.

S.NO.	TARGET POPULATION	SIZE/ UPHC	TOTAL TARGET	TOTAL SAMPLE SIZE OBTAINED
1.	Chief Medical Officer	1	3	3
2.	NGO Manager	1	5	5
3.	Medical Officer In-Charge	1	27	27
4.	Paramedical Staff	1	27	27
5.	Patient	5	135	136
6.	Community Member	10	2 children, 1 male, 1 female	
			2 adolescent, 1 male, 1 female	
			4 adults, 2 male, 2 females	
			2 geriatric, 1 male, 1 female	
			270	276
	TOTAL		467	474

Table 3.2. explains the composition of target population broken into stratum.

3.2 STUDY DESIGN

A descriptive study design was adopted to answer questions like what, how, where and when directed at targeted population to assess the current status and functioning of the

UPHCs. The target population was interviewed personally through the means of semi-structured questionnaires that consisted of both close and open-ended questions. Where required, their suggestions were noted, for e.g.: when questioning a staff employee how they thought their roles were limited and how did they perceive could their roles be expanded to improve the functioning of the UPHC. The complete targeted sample population was interviewed in their natural environment to observe their natural behaviour. While a definitive answer could not be teased out in every circumstance, the interviewee was allowed sufficient time to direct thoughts.

3.3 SAMPLING METHOD

Having five functional NGOs cumulatively operating 27 UPHCs across the five districts had the sample size at three CMOs, five NGO managers and Medical Officers. A total of twenty-seven paramedical staff was interviewed, one from each UPHC. Five patients consulting at each UPHC at the time of evaluation were chosen at random giving a total of 135 patient responders. 1 extra patient from Roorkee was interviewed, putting the count to 136. Ten community members from the radius of each UPHC were interviewed providing information from a total of 270. Five forms from areas under Samarpan Society and one from Bombay Hospital were obtained totalling the count to 276. Community members were chosen through a stratified sampling technique according to age and gender stratum. One male and female child, one male and female adolescent, 2 male and female adults and one male and female geriatric community members were questioned to make a cumulative of ten members of the community residing in the vicinity of respective UPHCs.

Purposive sampling technique was applied to gather information from patients where possible. Patients present at the UPHC seeking consultancy at the time of evaluation were taken. While this had a danger of bias with the probability that the patients were called upon by the ANMs or ASHAs anticipating the evaluation, the interviewer made every effort to tease out any such information in order ascertain their motives as well. To record such information other than the perceptions of the participants, field notes were chronicled to produce meaning and understanding of the socio-cultural background to reflect upon as need arose.

3.4 DATA COLLECTION AND ANALYSIS

A group of maximum three team members was formed to handle the data collection at each UPHC. Their roles were pre-defined without inter-changeability to assure accurate data collection. They were assigned roles according to their communicative and competency skills at each level of strata of targeted population.

A semi structured approach to interview was adopted to allow respondents to speak their thoughts freely and were provided with a range of options to choose from where intended. In targets like CMO, NGO manager and MO, a more formal approach was taken, but imperative to acquiring qualitatively rich data an informal approach was directed towards the patients and community members. Contact information of all participants was recorded in case the need to cross-verify data arose during the data analysis.

3.5 ETHICAL CONCERN

An oral consent was gathered by each participant. In case of patients and community members, a signature was taken to signify their consent, in case of an illiterate participant their left thumb impression was taken. They sample population from patients and community were explained the need for the information with clarity and were given the freedom to not respond to any question they felt uncomfortable with. They were however implored for reasons for choosing to not responding which were noted as well.

Of all the data obtained, all the probable information was coded onto Microsoft Excel. These variables in majority were qualitative questions common between the questionnaires for patient, community and the medical officer in-charge, for instance those based on UPHC infrastructure, services and facilities provided at the UPHCs, awareness among patient and community about health camps being organized and their regularity of occurrence, their frequency of availing services from the health camps, their rating for the overall care received at the UPHC, etc. IBM SPSS Statistics Version 22 was applied to analyse the data.

The qualitative information gathered from other interviewees i.e. paramedical staff, NGO managers and CMO was reviewed manually and corelated with the evidence acquired to reveal the meaning of the data and the greater picture.

CHAPTER 4: RESULTS

4.1 BRIEF ABOUT THE NGO WORKING AT UPHCS

A cumulative of 5 NGOs are currently operational in the 3 districts of Dehradun, Haridwar and Nainital. Samarpan Society and Society for People's Development (SPD) are responsible for managing a total of 12 UPHCs of Dehradun with 6 under each. While Dharam Gramin Utthan Sansthan (DGUS) oversees the management of 6 UPHCs of Haridwar, Friends is responsible for 5 UPHCs of Roorkee and Bombay Hospital manages 4 UPHCs of Nainital.

The vision to serve humanity was found shared among all the founders of the NGOs that keeps the fire in them alive still despite the hurdles faced by each constantly. While the founder and manager of Samarpan Society and Bombay Hospital are practicing clinicians, the rest have a background in management and finance.

The compensatory qualities of health and management shared between all the NGO managers provides them with possible solutions to challenges when shared amongst themselves and gives birth to innovative techniques of management that were apparent in various UPHCs.

4.2 INFRASTRUCTURE

Several similarities were found amongst the responses gathered from all the UPHCs of each district. For instance, the infrastructure through which the UPHCs operated were rented buildings with regular payments dues. Some were restructured to accommodate rooms dedicated to various services while most accommodated the services in the rooms already within the structure. A separate Out-Patient Department room (OPD) was present in all UPHCs along with a pathology laboratory, pharmacy, ward with minimum one bed, toilets, drinking water facilities and a hand washing station. The ward is put in use mostly for ANC cases requiring observation or waiting for referral transportation, for first aid and as injection room.

A waiting lounge was commonly present at all UPHCs, no matter the area, with chairs for the patients. In light of the Infection Prevention and Control precautions, the patients were being managed by the head nurse in majority of UPHCs so as to limit their gathering in one section for long. In denser district like Haridwar where vaccination was being conducted for COVID-19, the waiting areas seemed small despite a relatively large area.

Ambulance service was demanded on call at each UPHC. Cold chain was universally absent along with any AYUSH services available at any of the 27 UPHCs. As with the inclusion of Health and Wellness Centres under NUHM, there were no dedicated area for yoga or physical exercises found in any.

4.3 HUMAN RESOURCES

The selection and management of human resources is taken care of at the private end within this PPP model. This information sprang repeatedly up on interviewing the NGO managers as it proved a constant challenge for them (discussed later). The core staff strength in essence was full at all 27 UPHCs. The posts of Medical Officer, head nurse, pharmacist, laboratory technician, ANMs (5 sanctioned) and public health manager were occupied. Posts that lay vacant at all UPHCs were of a relieving/alternate MO, a Lady Health Visitor (LHV) and a Monitoring and Evaluation unit. At the bulk of the UPHCs with functional Health and Wellness Centres, a yoga teacher was also employed at a daily/weekly basis.

NGO	Is MO present?	Is 2nd MO present?		Is a LHV present?		Is a M and E Unit present?	
	yes	No	Yes	No	Yes	No	Yes
Samarpan	6	6	0	4	2	6	0
SPD	6	6	0	3	3	6	0
Bombay Hospital	4	3	1	4	0	4	0
DGUS	6	6	0	6	0	6	0
FRIENDS	5	5	0	5	0	5	0
Total	27	26	1	22	5	27	0

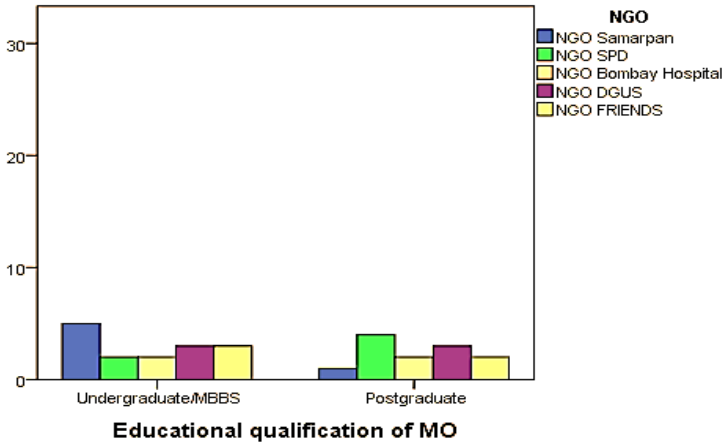
Table 4.1. outlines the number of posts filled against the sanctioned by NUHM in the 27 UPHCs.

NGO	Gender		Educational qualification of MO		Total
	Male	Female	Undergraduate/ MBBS	Postgraduate	
Samarpan Society	3	3	5	1	6
SPD	4	2	2	4	6
Bombay Hospital	4	0	2	2	4
DGUS	2	4	3	3	6

FRIENDS	2	3	3	2	5
Total	15	12	15	12	27

Table 4.2. reflects the gender equality in spread of MOs across all NGOs, except SPD and Bombay Hospital. MBBS qualified MOs are predominantly present throughout the UPHCs.

Few characteristics of Medical Officers in the three districts became apparent on examination. MOs of gender were equally spread across all NGOs except for those under Bombay Hospital, where all MOs employed were men. the significance of this detail was evidenced in the need of the patients for a greater magnitude of lady doctors as substantial services at the UPHCs surround ANC. In absence of LHVs at all UPHCs, this need arising is logical.



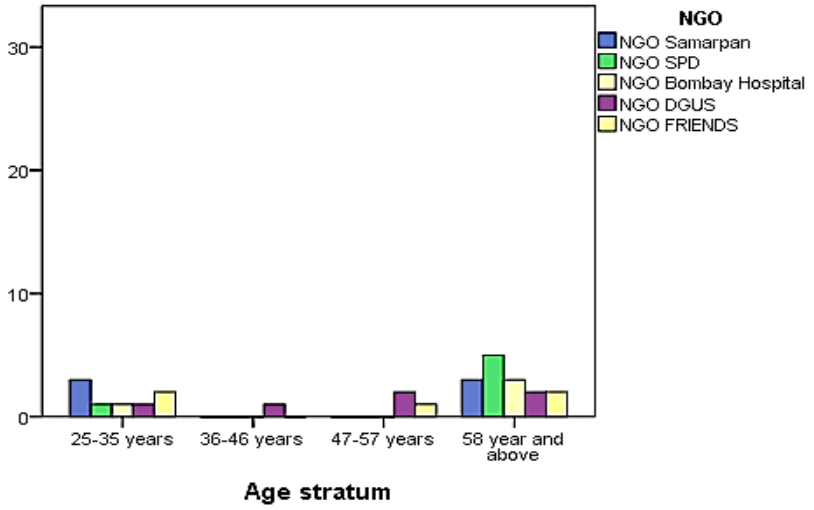
Graph 4.1. depicts the density of MOs across all NGOs when divided by their educational status.

Furthermore, analysis reflected that approximately half the UPHCs were operational under MOs of MBBS level medical education. MBBS doctors were maximally present throughout the UPHCs under the *Samarpan Society*, while *SPD* has employed many MOs with specializations in a subject

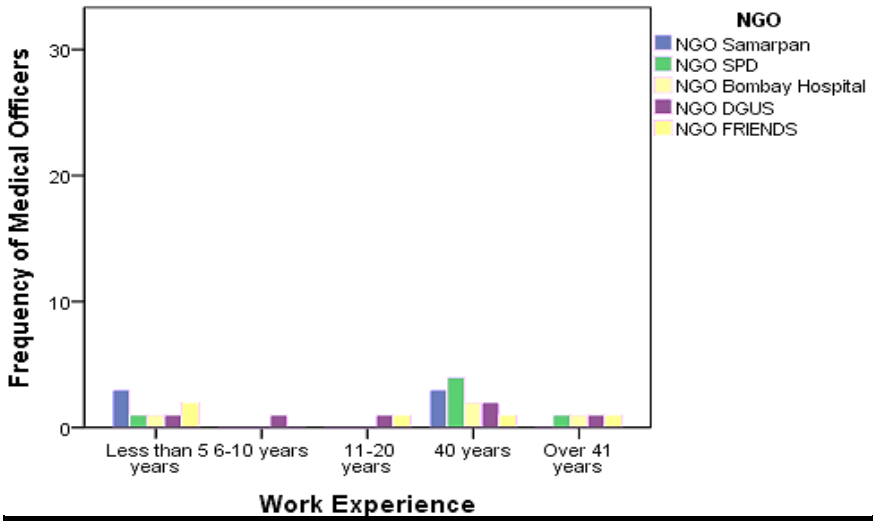
Aligning this information with the age of the MOs, it can be however observed that all the UPHCs under all the NGOs were dominated by MOs of age 58 years and above. *Samarpan Society* had the most magnitude of young doctors employed as MO. Accounting their age; the wholesome work experience they bring to the functioning of UPHC is incalculable. Doctors with 20-40 years of work experience are plentiful, with more with an experience greater than 40 years.

NGO	Age stratum				Total
	25-35 years	36-46 years	47-57 years	58 years and above	
Samarpan Society	3	0	0	3	6
SPD	1	0	0	5	6
Bombay Hospital	1	0	0	3	4
DGUS	1	1	2	2	6
FRIENDS	2	0	1	2	5
Total	8	1	3	15	27

Table 4.3. gives the spread of MOs across 27 UPHCs according to their age stratum.



Graph 4.2 represents the stratification of Medical Officers over 27 UPHCs according to their age.



Graph 4.3. depicts the distribution of MOs across 27 UPHCs along the length of their working experience

NGO	Does the MO undergo orientation for NUHM?		Does the Staff undergo orientation for NUHM?		Total
	No	Yes	No	Yes	
Samarpan Society	3	3	0	6	6
SPD	0	6	0	6	6
Bombay Hospital	2	2	0	4	4
DGUS	3	3	0	6	6

FRIENDS	2	3	0	5	5
Total	10	17	0	27	27

Table 4.4. reports on orientation or training sessions conducted for MOs and the paramedical staff.

Staff typically reported of the irregularity of orientation or training sessions. While trainings for pertinent current issues like IPC considering the pandemic were universally conducted, the staff aspired for advanced training sessions to maximize their potential. Bearing in mind a single head nurse is present at each UPHC, the burden to cater all patients daily falls on her. With a better preparedness to common ailments including NCDs, the nurses have potential in stirring the community towards behavioural change practices.

4.4 HEALTH SERVICES AT THE 27 UPHCs

Common questions directed towards the sample community and the patients consulting at the UPHC at the time of evaluation brought forth interesting observations on the performance of all the NGOs and the impediments in the demand of services through UPHCs.

COMMUNITY RESPONSES

SERVICES		NGO					Frequency
		Samarpan Society	SPD	Bombay Hospital	DGUS	Friends	
ANC	No response	1	0	19	5	3	28
	Yes	48	49	15	28	18	158
	No	16	11	7	27	29	90
Total		65	60	41	60	50	276
PNC	No response	1	0	19	5	3	28
	Yes	47	47	14	19	17	144
	No	17	13	8	36	30	104
Total		65	60	41	60	50	276
Immunization	No response	1	0	19	5	3	28
	Yes	51	47	18	37	36	189
	No	13	13	4	18	11	59
Total		65	60	41	60	50	276
Family Planning	No response	1	0	19	5	3	28
	Yes	44	48	7	8	8	115

	No	20	12	15	47	39	133
Total		65	60	41	60	50	276
Common Ailments	No response	1	0	19	5	3	28
	Yes	55	47	14	20	21	157
	No	9	13	8	35	26	91
Total		65	60	41	60	50	276

Table 4.5. elaborates the kind of responses gathered from community members towards their awareness about health services provided at the UPHCs of their area.

Of the 276 community members interviewed 28 of them chose to not respond towards the availability of general services at the UPHCs consistent within the areas under all five NGOs respectively (Samarpan Society (1.5%), SPD (0%), Bombay Hospital (46.3%), DGUS (8.3%) and FRIENDS (6.0%). Among all the NGOs, community members non responsive were highest under *Bombay Hospital* (67.9%). A total of 89.8% community members interviewed responded to all questions across all NGOs. Those not responding were usually those who have never visited the UPHC and were therefore unaware of the kind of services provided.

ANC Services: Of all the community members who responded residing in the vicinity of the UPHCs (89.8%), those from near UPHCs of *Samarpan Society* (85.9%) and *SPD* (78.3%) responded positively to the question of availability of ANC services at the UPHC. Of the handful people replying from areas of Nainital, 68.1% (*Bombay Hospital*) were aware of the same. *DGUS* gathered a 50% positive response rate, while *FRIENDS* stood alarmingly at a 38.2% aware sample population.

PNC Services: Of all the community members who responded, those from near UPHCs of *Samarpan Society* (73.4%%) and *SPD* (78.3%) responded positively in most frequency to the question of availability of PNC services at the UPHC. *DGUS* and *FRIENDS* gathered a positive response from a mere 34.5% and 36.1% responders overall. In contrast, from within the low responders from *Bombay Hospital*, 63.6% sample population was aware of PNC services being available at the UPHCs.

Immunization Services: Of all the respondents from the sample community, those from around UPHCs under *Samarpan Society* (79.6%) and *SPD* (78.3%) provided with most affirmative response. 81.1% of the responders from community from under *Bombay Hospital* were aware of immunization services at the UPHCs while only 67.2% and 76.5% from those under *DGUS* and *FRIENDS* respectively, were aware of the same.

Family Planning Services: While 68.7% responders from the sample community under the wing of *Samarpan Society* and 80% from *SPD* were aware of family planning services provided at the UPHC of their area, only 17.1%, 13.3% and 16% positive responses were obtained from those around *Bombay Hospital, DGUS and FRIENDS.*

Services for Common Ailments: Similar to the result generated on questioning the awareness about family planning services, community members from the sample population under the span of *Samarpan Society* (85.9%) and *SPD* (78.3%) were most aware of services provided at the UPHCs for common ailments. While only 36.3% and 44.6% responders from around UPHCs under DGUS and FRIENDS were aware, it was insightful to infer that 63.6% ample members of the community around *Bombay Hospital* were aware. Members around the UPHCs under *DGUS* and *FRIENDS* gave the highest negative response.

PATIENT RESPONSES

SERVICES		NGO					Total
		Samarpan Society	SPD	Bombay Hospital	DGUS	Friends	
ANC	No response	1	1	0	2	7	11
	Yes	26	28	20	25	19	118
	No	3	1	0	3	0	7
Total		30	30	20	30	26	136
PNC	No response	1	1	0	3	9	14
	Yes	25	28	17	21	17	108
	No	4	1	3	6	0	14
Total		30	30	20	30	26	136
Immunization	No response	0	1	0	2	5	8
	Yes	28	29	19	27	21	124
	No	2	0	1	1	0	4
Total		30	30	20	30	26	136
Family Planning	No response	1	2	1	6	10	20
	Yes	27	28	12	15	13	95
	No	2	0	7	9	3	21
Total		30	30	20	30	26	136
Common Ailments	No response	0	0	0	3	7	10
	Yes	30	30	17	17	19	113
	No	0	0	3	10	0	13
Total		30	30	20	30	26	136

Table 4.6. elaborates the kind of responses from patients consulting at the UPHCs towards their awareness about health services provided.

Of the total 136 patients interviewed from the patient sample population (preferably 5 from each, but with one extra from a UPHC under FRIENDS), many chose to not respond at different frequencies across the UPHCs under the five NGOS, varying between 5.9%-14.7%, for the questions related to general service directed at them.

Higher magnitude of non-responders in the case sample population from *FRIENDS* can correspond to patients arriving at the UPHCs for the first time since vaccination day for COVID-19 was underway on the day of evaluation of UPHCs of Roorkee. This would explain their unawareness about services available and chose to not respond.

Interviews from patients brough forth a picture distinct from that created on inferring responses from the community sample.

ANC Services: While 8.1% of the 136 patients interviewed in total chose from the 27 UPHCs not to respond, a great majority of them consulting under each NGO who did respond gave a positive result (Samapran Society (89.6%), SPD (96.5%), Bombay Hospital (100%), DGUS (89.2%) and FRIENDS (100%)). All patients in UPHCs belonging under *Bombay Hospital* and *FRIENDS* were aware of ANC services provided at the UPHC.

PNC Services: Excluding the 10.3% sample population choosing not to respond from UPHCs among the five NGOs, 86.2% patient population from *Samarpan Society*, 96.5% from *SPD*, 85% from *Bombay Hospital*, 77.8% from *DGUS* and a 100% from *FRIENDS* were aware of PNC services being available at the UPHC of their area.

Immunization Services: Of the 94% patient sample who confessed to their awareness towards immunization services being available at the UPHC, unanimously provided positive response (Samarpan Society (93.3%), SPD (96.7%), Bombay Hospital (95%), DGUS (96.4%) and FRIENDS (100%) In contrast to the results generated from the community members, patient response from UPHCs under *DGUS* and *FRIENDS* was maximally positive. All responded from the patient population under and S*PD* and *FRIENDS* with almost all of them in affirmation.

Family Planning Services: 14.7% of the total patients interviewed opted not to answer for their awareness about the provision of family planning services at the UPHC, with

highest non-responders to any question about health services directed at them so far. While 93.1 % patient responders from UPHCs under *Samarpan Society*, 100% from *SPD* and 81.2% from *FRIENDS* gave correct responses, an alarming 63.1% from *Bombay Hospital* and 62.5% from *DGUS* were unaware.

As with PNC services, this general lack of awareness for family planning services can be attributed to the middle aged and geriatric density of patients at UPHCs of Nainital and Haridwar that seek healthcare at respective centres most. Patients from UPHCs under *FRIENDS* gave highest non-responses among UPHCs from all the NGOs. This supports the observation of such patients arriving for the first time, most likely to be vaccinated against COVID-19.

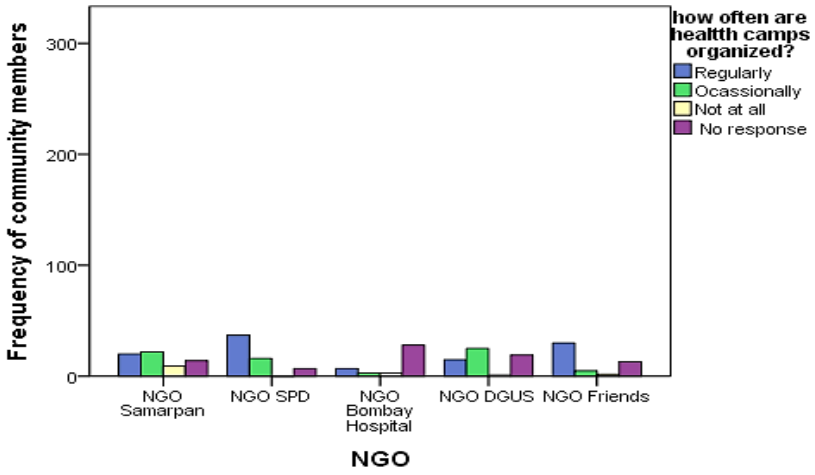
Common Ailments: Of the 92.6% sample patient population who responded whether services required to treat common ailments were provided at the UPHCs, complete patient sample interviewed at UPHCs of *Samarpan Society*, *SPD* and *FRIENDS* responded positively. While 85% and 62.9% patients from *Bombay Hospital* and *DGUS* respectively responded in affirmation.

The strata of patient population not responding or responding incorrectly to the availability of the various services specially for family planning could be of those not eligible to seek these services. It is possible that the geriatric population consults or was consulting most at the UPHC at the time of evaluation and whose most sought needs are for common ailments or non-communicable diseases.

4.5 OUTREACH SERVICES

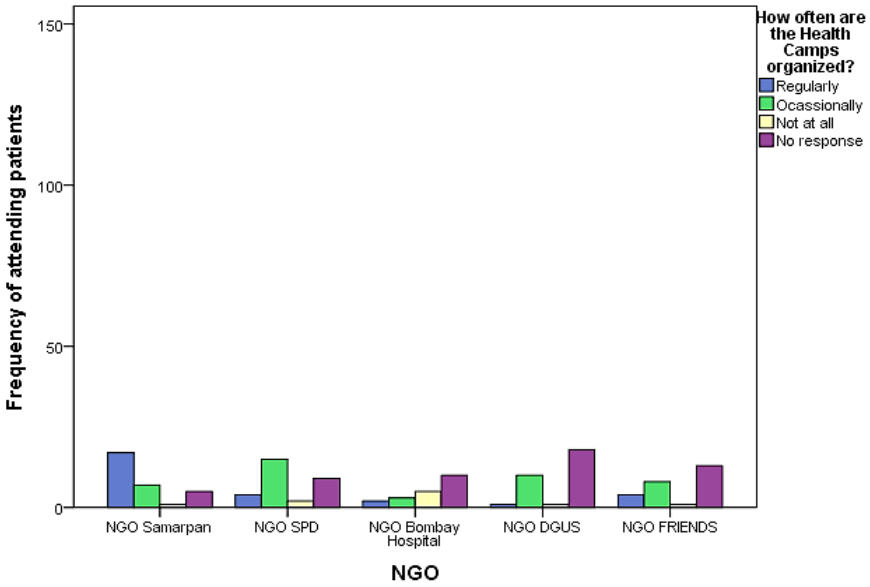
Many opacities in the broad picture of the functionality of UPHCs have started to fall away by now. There is an evident conflict of opinions obtained between the sampled community population and patient population.

To assess further the awareness about the outreach services provided by the UPHC in form of monthly health camps was also gauged from both community and patient population for better inferences.



Graph 4.4. represents the community members' response in awareness of the frequency with which the health camps are conducted by the UPHC.

Community members of Nainital chose least to respond to the enquiry about the regularity with which health camps are conducted by the UPHCs of their area. From the percentage of sampled community who chose to respond,81% and 69.8% of those from around the UPHCs under *FRIENDS* and *SPD* responded to their frequency of organization being regular. 43.1% and 60.9% community members interviewed in the vicinity of UPHCs under *Samarpan Society* and *DGUS* commented on their organization to be occasional. On this spectrum, responses from Nainital were most disheartening with only about 50% aware of their regularity.

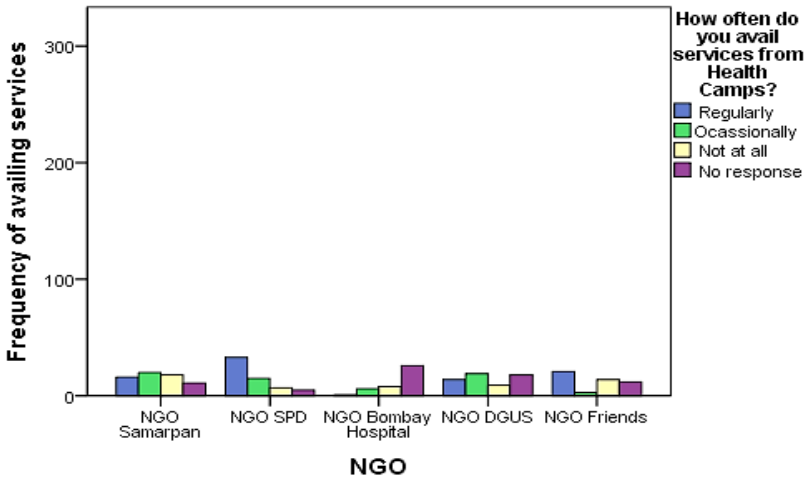


Graph 4.5. represents the responses from patients gauging their awareness about the frequency with which the health camps are conducted by the UPHC.

The results from the community are somewhat reflected in the patient population consulting at the UPHCs. While 46.8% patients interviewed and choosing to respond at UPHCs under *Samarpan Society* responded in the regularity of health camps being

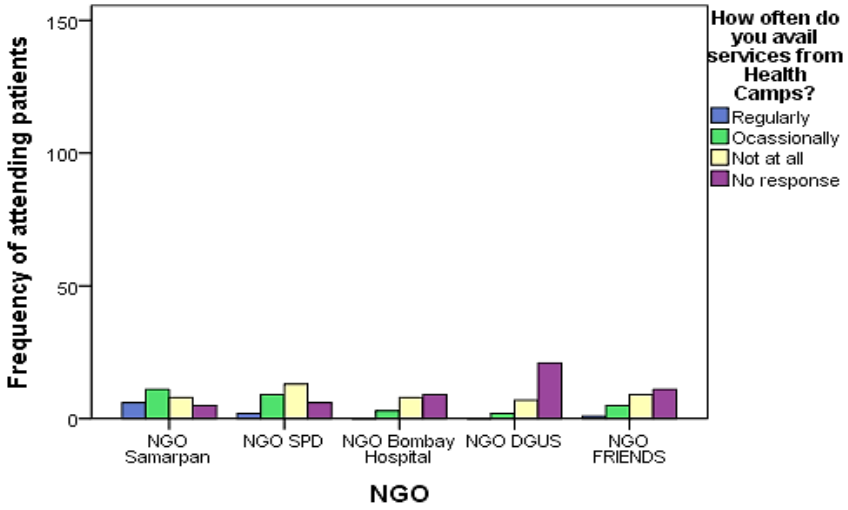
conducted, greater magnitude of sampled patients knew them to be conducted occasionally (SPD (50%), DGUS (33.3%) and FRIENDS (30.8)). 50% of those confessing at UPHCs under Bombay Hospital reported they are never organized.

An extension to the above query was created to assess the gap between the awareness of service provision through the UPHCs in the community and patients, and their perceived need to avail these services.



Graph 4.6. represents the community members' response to the frequency with which they avail the services through health camps conducted by the UPHC.

When enquired about the frequency with which each community member questioned availed services through the health camps organized by UPHCs on a monthly routine, from those responding, a large chunk from *FRIENDS* (55.2%) did so in the health camps being organized regularly while those around UPHCs of *Bombay Hospital (*53.3%) replied they were not at all conducted.



Graph 4.7. represents the patients' response to the frequency with which they avail the services through health camps conducted by the UPHC.

Strikingly, on questioning the patients about their frequency of attending health camps, those sampled patients who chose to respond from UPHCs under *Samarpan Society*

(44%) and *SPD* (37.5%) only occasionally did. While those from *Bombay Hospital* (72.7) and *DGUS* (77.7%) receded even further into the category of not availing health camps at all.

It is quite likely that the contents of health camps provided as outreach for the community are since covered within the UPHC, the patients find all the services of necessity at the UPHC itself with no need arising to approach health camps giving such results.

Have you seen IEC material on health services distributed in your area?		NGO					
		Samarpan Society	SPD	Bombay Hospital	DGUS	Friends	Total
Yes	Count	39	52	5	29	26	151
	% among 5 NGOs	25.8%	34.4%	3.3%	19.2%	17.2%	100.0%
	% within NGO	60.0%	86.7%	12.2%	48.3%	52.0%	54.7%
	Excluding non-responders	73.5%	86.7%	23.8%	50.0%	59.0%	63.9%
No	Count	14	8	16	29	18	85
	% among 5 NGOs	16.5%	9.4%	18.8%	34.1%	21.2%	100.0%
	% within NGO	21.5%	13.3%	39.0%	48.3%	36.0%	30.8%
	Excluding non-responders	22.6%	13.3%	76.1%	50.0%	40.9%	36.0%
No response	Count	12	0	20	2	6	40
	% among 5 NGOs	30.0%	0.0%	50.0%	5.0%	15.0%	100.0%
	% within NGO	18.5%	0.0%	48.8%	3.3%	12.0%	14.5%
Total	Count	65	60	41	60	50	276
	% among 5 NGOs	23.6%	21.7%	14.9%	21.7%	18.1%	100.0%
	% within NGO	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4.7. represents the distribution of frequency of responses and non-responses by interviewed community members to whether they see any IEC material from the UPHC of their area.

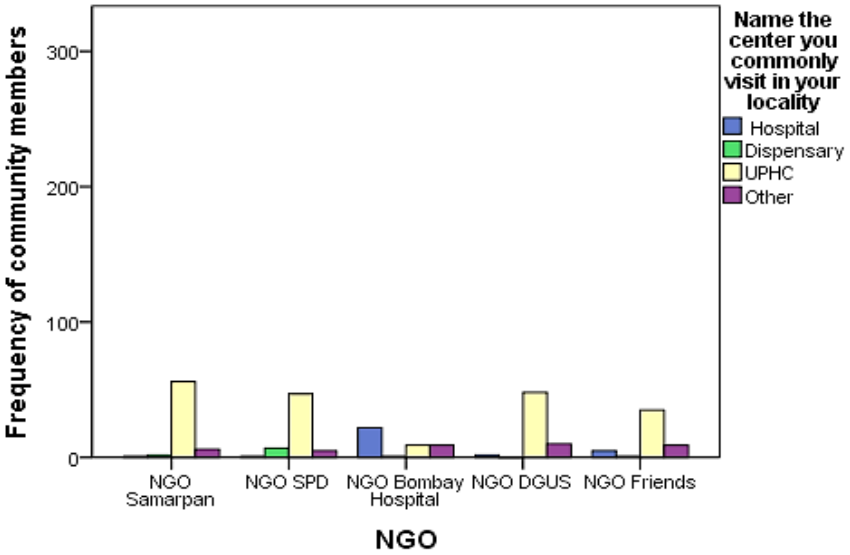
Asking whether the community members had witnessed any IEC material about the UPHC that iterated the services provided at the UPHC or about the monthly health camps organized generated the lowest response rates from the target populations from Nainital under *Bombay Hospital*. Only 23.8% sample community members had ever seen any IEC material from UPHCs under *Bombay Hospital*. Of the total responders from area within *DGUS*, equal positive and negative responses were gathered. A somewhat similar result is obtained from community members interviewed under *FRIENDS*.

Advertising, broadcasting and relaying messages through the word of mouth can prove convenient enough in the state capital Dehradun, easing the population awareness on

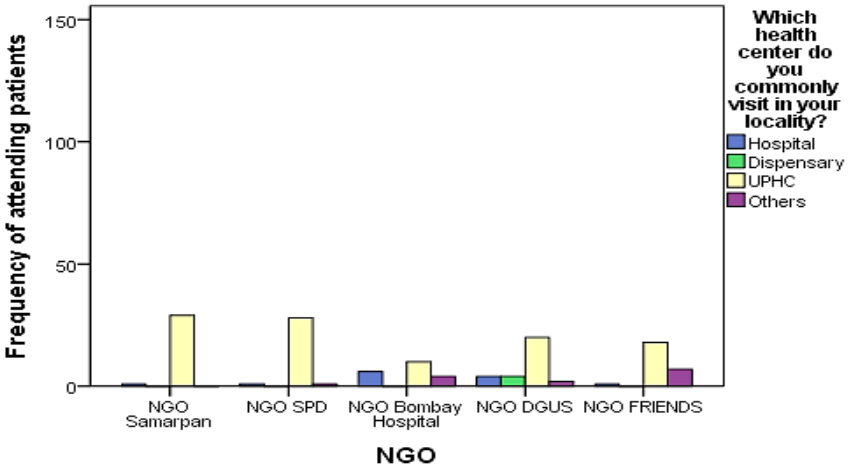
health service provision by government. In Nainital though, the weak advertising and utilization of IEC material is proving a hurdle in the maximized utility of UPHCs. This can be a cause to the high non-response rates encountered throughout the interview in the community. Patients approaching UPHC may be well aware of the services owing to the regular frequenting thereby reflecting so.

4.6 COMMUNITY AND PATIENT SATISFACTION WITH THE UPHC

Questioning about the preference of health centre in the vicinity gathered similar response from both the community and patient populations. In both instances it was found that UPHCs were the most approached health centre in all districts despite the presence of Government and private hospitals and clinics scattered. The other centres visited by the community were therefore mostly private clinics or Base Hospitals of the district.



Graph 4.8. represents the community members' preference of health centres in their locality for seeking health needs.

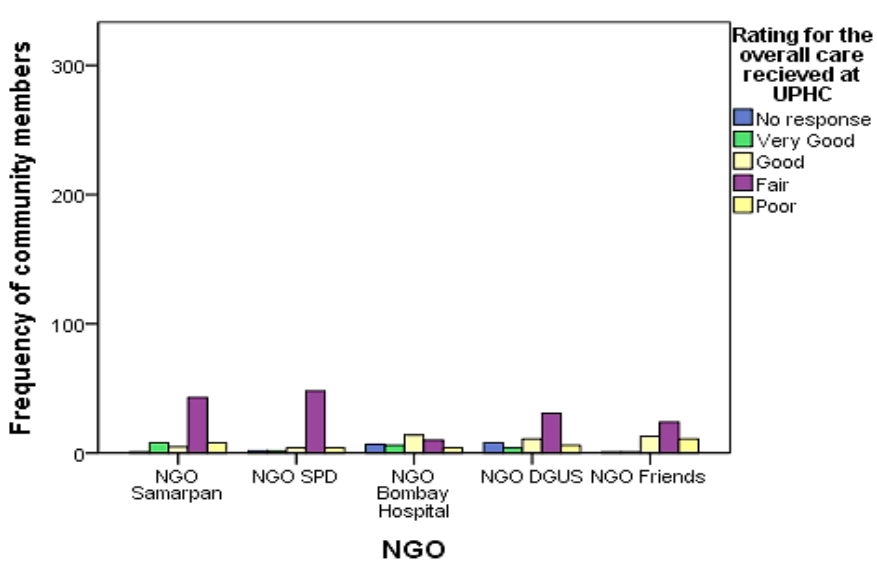


Graph 4.9. represents the patients' preference of health centres in their locality for seeking health needs.

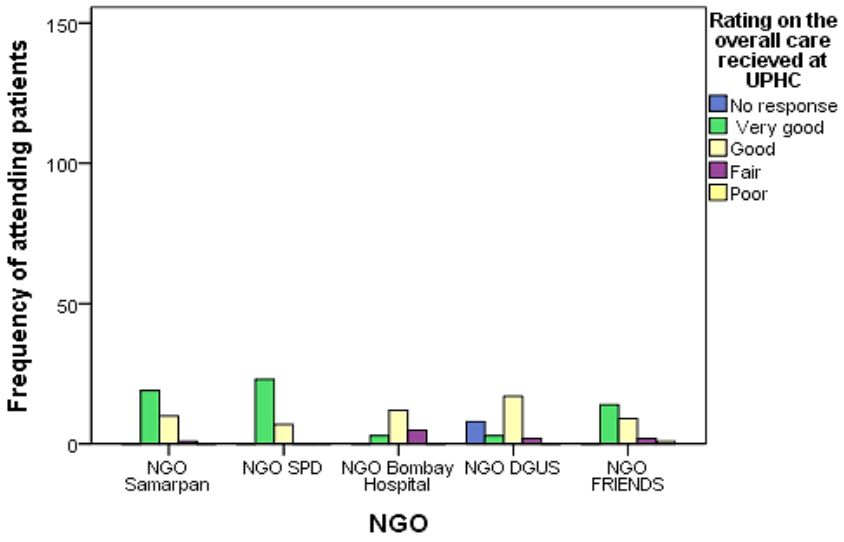
Most sampled community members from Nainital preferred alternate options to UPHC like the closest government hospital, private clinics or Base Hospital.

While the sampled patients from UPHCs under Samarpan Society and SPD did not feel the need to approach alternate health facilities but UPHC, it was not true with UPHCs under rest of the NGOs. Patients consulting at Bombay Hospital, DGUS and FRIENDS did also consult at the nearest government hospital and private clinics. It is quite likely that the segment of sample patients captured for interview and choosing alternate health facilities consulted at the UPHC for easily manageable health needs like cold or cough.

Responses of community and patients commenting on the overall care received by the UPHC obtained on Absolute Category Scale reflected a large chunk finding it fair. Only a small percentage of the community sampled and choosing to respond from either district perceived the performance of UPHC to be good (Samarpan Society (7.8%), SPD (6.8%), Bombay Hospital (41.1%), DGUS (21.1%) and FRIENDS (26.5%)). A large proportion of community members interviewed found the overall care received just fair (Samarpan Society (67.1%), SPD (82.7%), Bombay Hospital (29.4%%), DGUS (59.6%%) and FRIENDS (48.9%%)).



Graph 4.10. representing community members' satisfaction with the quality of care received at the UPHC of their area.



Graph 4.11. representing patients' satisfaction with the quality of care received at the UPHC of their area.

The picture is however reversed with the case of patients interviewed. Of the sample patient who responded did comment very good heavily for Samarpan Society (63.3%) and SPD (76.7%). 60% of the responding patient sample from UPHCs under Bombay Hospital and 77.2% from those within DGUS reflected the overall care received to be good.

4.7 BOTTLENECKS IN PPP MODEL IDENTIFIED BY DIFFERENT STAKEHOLDERS

4.7.1 FROM CHIEF MEDICAL OFFICERS

Personal interviews with Chief Medical Officers of the districts of Dehradun, Nainital and Haridwar bought forth distinct bottlenecks from their bird's eye view. Some of the challenges they recognized restricting effective health service delivery through the UPHCs under PPP model were:

- A lack in rural urban demarcation of the district with an inadequate record of migrating population makes for poor coverage. The magnitude of population catered under one UPHC also contributes to an inefficient handling of services at the private end.
- A monitoring and evaluation unit along with regular population surveys is missing.
- In regions of Nainital where urban clusters are situated farther apart, more and more remote population choses to consult at UPHC. UPHCs should be equipped with facilities and services to satisfy their primary and preventive health needs and also act as efficient referral unit.

- Single full-time MOs at each UPHC overburdens them with the daily patient influx. Full-time specialist services can aid in filtering patients of specialized requirements away from the UPHC and directly towards centres equipped with specialized care.
- The financial hurdles affect the funding of UPHCs at all levels including the salary provision or the supply of drugs and reagents at the centres. Since 100 percent of the UPHCs operate through rented buildings and the funds are released through the State, funding irregularities jeopardize the permanence of the infrastructure itself.

4.7.2 FROM NGO MANAGERS

The plight of the NGO managers was remarkably similar across the districts. The starkest challenge for them that creates bottlenecks in the effectiveness of the UPHCs is the timely flow of funds from the State. This reflects opaquely at the staff level who have been passing income-less since last 3-4 months despite assisting heavily in the COVID-19 surveillance. With long passages without salary payments, the NGOs face high staff attrition rates. It becomes challenging for them to maintain their motivation and they regularly see to their income paid through their own pockets. Adding to this also the matter that NGOs train the staff as per needs of the population. When faced with financial barriers, this trained staff opts out, putting the NGO at greater deficit still. To gain ground in this issue, the NGO managers suggest better training opportunities should be provided to all the staff of the UPHCs at regular intervals with advancement in the content according to the need of the times.

4.7.3 FROM MEDICAL OFFICER

Common bottlenecks arose from the 27 MOs interviewed. Most realised the adequate supply of drugs and reagents and their regular availability an imperative tool for managing patients and maintaining their compliance. Inadequacy in the range of drugs for provision with no room to place demand for special or non-essential drugs in cases of patient-centric need was a shared theme. The patient then either buys drugs from other sources or is referred to a higher centre undergoing out of pocket expenditure and thereby defeating the purpose of UPHCs.

The challenges created by irregularity in staff salary was reiterated by MOs as well. They feel the need of various upgradations that a proper funding could manage such as a

stronger infrastructure with better laboratory services. Basic radiological and diagnostic services like X-ray and ECG machines, regular supply of drugs and reagents, availability of non-essential drugs especially for Non-communicable diseases as per demand generated, space for more beds, wheelchair, personal ambulance and emergency services and vacancy in staff positions were a few they felt could be embarked upon. But with an elementary problem of irregular salary going amiss, they feel only a greater amount spent on health GDP can find redressal of such tailbacks.

4.7.4 FROM PARAMEDICAL STAFF

Channelling of patients is an issue, state numerous head nurse of UPHCs, especially in light of COVID-19 when infection control is of paramount importance. They realize this can be managed with better spaciousness in the UPHC.

Many felt the need for regularity in orientation and training sessions with advancement in content according to the staff hierarchy and competency. They realize their strength in engaging the community but find themselves feebly able to achieve their potential in behavioural change.

Laboratory technicians interviewed with consistency across the 27 UPHCs find themselves working with basic pathological aid in the general lack of reagents to conduct applied tests.

CHAPTER 5: DISCUSSION

Dehradun and Haridwar are the greatest populated districts of Uttarakhand. While Dehradun is gathering pace with constant advancements and in prime of its development as a State capital, Haridwar is not far behind. This factor alone is remarkable in influencing the health status of the population. District of Nainital is a mountainous terrain with a scattered population. As evidenced by the results, strategies to uplift the efficient functioning of UPHCs under Bombay Hospital to make health services effective are different than those required for Dehradun or Haridwar.

As reflected by the responses generated by the sampled community and patients, there is a generalized low awareness about availability of services in community members at DGUS and FRIENDS. This is in contrast to responses from the patients who affirm the availability of all services across all NGOs. Community members from Bombay Hospital is grossly unaware of services for PNC, family planning and health camps. It is probable that advertising about the services available through the UPHCs towards the patients is proper, targeted and impactful such that patients not eligible for certain services are also aware, while it is improper or lacking within the surrounding community.

It is quite likely that patients from Bombay Hospital who responded negatively towards provision of services for treating common ailments are closely aware of the services available or not at the UPHCs and so for health requirements they deem more serious trust alternate health centres. It could also be attributable to the fact that population falling in the mountainous regions of Nainital and the age stratum visiting the UPHC most, have different health needs that they define as common ailments like arthritis.

NGOs of Dehradun and Haridwar have stronger holds in the patient and community with a stronger compliance. While the grievance of irregular funding to manage inter-connected needs, which gets reflected at the patient level and is shared among all, it is the UPHCs of Nainital that require boosting in diverse manners. As evidenced, population seeking healthcare at the UPHCs under Bombay Hospital are of a selective stratum. Common ailments and NCDs are most widely treated at these centres discouraging the spread of awareness on other services. To remedy the situation, it could be worthwhile to strengthen mother and child healthcare services and the required advertising to attract community. Efforts towards improving the awareness about the UPHC and the health services it provides is significant for engaging community.

The cost of the constant financial hurdles is borne by all the stakeholders associated with the PPP model of operating a UPHC, from a secure infrastructure to execute actions from, to the availability of staff, drugs and reagents. To smoothen the flow of finances, a decentralized approach could prove effective in meeting the challenges made consequent. Routing funds through the District and not through the State could minimize the time taken for the funds to reach their respective destinations for respective utilizations. Improving on a transparent chain of accountability between all hierarchical levels could be wise. It would lay bare the gravity of the consequences at each stakeholder level prompting strict actions.

CHAPTER 6: CONCLUSION

A dearth of studies evaluating the effectiveness of PPP model run healthcare across the nations. Beginning with smaller States like Uttarakhand, it can be simpler in collecting evidence and prove beneficial in the future to conduct pilot projects. Such health projects piloted under UPHCs can provide for an expanded database further direction. Catchment of urban marginalized and slum population along with their monitoring can be made feasible.

The need to establish a transparent and trustworthy chain of accountability to maximize the potential of both public and private player to achieve better healthcare strength. Decentralization and flexibility at the level of both public and private partners for managing a complex adaptive subject as health can prove beneficial in smoothening operations and executions of health services. The need to break free of silo approaches to inter-sectoral collaboration with the variegated partners in health is needed.

CHAPTER 7: ABOUT THE PRACTICUM EXPERIENCE

In the entirety of duration of the practicum, the kind and quality of programs, projects and research undertaken by the Department of Community of Family Medicine never failed to surprise me. Where some people were focused on specific topics, I found some with their hands dipped in every kind of study possible. It exposed me to the vast reach and depth of responsibility AIIMS Rishikesh had in overseeing the health status of the state of Uttarakhand. With COVID-19 vaccination being conducted at the Institute, it gave me a first-hand realization of the burden of the disease, the combative strategies and the steady decline in the burden.

Planning phase of the project implored effective strategies to form a team and assign responsibilities between its members in a manner best suited for data collection. It called for patience and understanding the viewpoints of members in how, when and where they perceived themselves most able to perform. Experiencing the stages of team building was a pleasure despite witnessing the storming stage since it meant norming was not far behind. A free approach to planning the project coordination was a significant exercise during which learnings from Human Resource management were identifiable.

The data collection phase though tiresome, was a discerning experience. Travelling to districts spanning in a radius of 250 kilo meters provided a renewed understanding of the challenges mountainous terrain can have on health seeking behaviour and health service delivery with a deepening appreciation of the role of NUHM and the PPP model. On foot survey of the urban poor segments catered by UPHCs held me face-to-face with the harsh realities, the quality of life and the need to improve it.

Personal interviews with the diversity of stakeholders provided comprehension of the impact the chain of command has on the end provider nitty-gritties and the beneficiaries. While the schematic protocol between the State government and NGO highlighted the advantages of a PPP model, it also brought to light the bottlenecks causing mismatch in health delivery and the unachievable potential of the PPP model.

7.1 KEY ROLES AND RESPONSIBILITIES

7.1.1 ROLES

- Plan the project requirements to ensure timely data collection.

- Manage team and its efficient functioning throughout the course of data collection.
- Ensure the availability of all resources required for carrying out the project and to keep the team sans souci by managing travelling, lodging, stationery supply, etc.
- Ensure that data collected is accurate and reliable.
- Devise effective risk management methods to surpass hurdles with least wastage of resources.

7.1.2 RESPONSIBILITIES

- Build teams and divide members appropriate to the diverse population of healthcare workers and community targeted to be interviewed.
- Help train team members for gathering accurate data from the field.
- Ensure co-ordination between team members divided between UPHCs to keep abreast with timely progress.
- Communicate the purpose of the project effectively with the diversity of healthcare working staff.
- Obtain information outlined in the questionnaire personally and maintain a contact record for communication in the event of missed/unsure or confusing documentation of replies.
- Cross-verify records for relevance and completion of data before having it entered onto excel sheet for analysis.
- Draft a report of the results obtained submittable at NUHM.

7.2 IDENTIFIED LEARNING OBJECTIVES

❖ **Analytics/Assessment Skills**

• Define a Public Health problem

• Identify the importance of data in shaping public health issues

❖ **Policy Development/ Program Planning Skills**

• Collect and prepare information to support policy development

• Develop policy recommendations

❖ **Communication Skills**

• Utilize learned skills to communicate effectively with a variety of stakeholders:

• Employ advocacy skills (e.g., advocating for change, public policy, programs, populations, etc.)

❖ **Cultural Competency**

• Recognize the importance of culture in Public Health practice and the need for a diverse workforce

• Explain cultural competency and how it applies to public health practice

• Interact regularly with people from diverse backgrounds

❖ **Community Dimensions of Practice Skills**

- Identify the role of government in health promotion
- Develop community public health assessment in collaboration with community partners.

7.3 CHALLENGES FACED

A different team of members was appointed for each district wise data collection. Changing team members faced both repetitive and distinct doubts. Though exhaustive, recurrent trainings facilitated clarity on accurate data collection while distinct problems called for evolving plans. At places a larger team was required to timely manage the labour which tested the supervision and co-ordination skills. Safe and timely arrival of members to and from the UPCHs, managing their simultaneous movements between the UPHC and community all the while ensuring the need for correct data recording kept me vigilant throughout.

At times it was a challenge to completely ascertain the honesty behind the response of study participants but with a strategy of discussing the experience of each team member post data collection from each UPHC significantly cleared the larger picture aiding in pin-pointing loopholes. It also assisted in continually improving questioning methods to tease out true information.

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ANNEXURES

ANNEXURE 1

Crosstabulation between the responses gathered from community members from UPHCs within all NGOs, against their awareness of frequency of conduction of Health camps from UPHCs of their area.

COMMUNITY RESPONSE

How often are Health Camps organized?		NGO					
		Samarpan Society	SPD	Bombay Hospital	DGUS	Friends	Total
Regularly	Count	20	37	7	15	30	109
	% among 5 NGOs	18.3%	33.9%	6.4%	13.8%	27.5%	100.0%
	% within NGO	30.8%	61.7%	17.1%	25.0%	60.0%	39.5%
	% Excluding non-responders	39.2%	69.8%	53.8%	36.5%	81.0%	55.8%
Occasionally	Count	22	16	3	25	5	71
	% among 5 NGOs	31.0%	22.5%	4.2%	35.2%	7.0%	100.0%
	% within NGO	33.8%	26.7%	7.3%	41.7%	10.0%	25.7%
	% Excluding non-responders	43.1%	30.1%	23.0%	60.9%	13.5%	36.4%
Not at all	Count	9	0	3	1	2	15
	% among 5 NGOs	60.0%	0.0%	20.0%	6.7%	13.3%	100.0%
	% within NGO	13.8%	0.0%	7.3%	1.7%	4.0%	5.4%
	% Excluding non-responders	17.6%	0.0%	23.0%	2.4%	5.4%	7.6%
No response	Count	14	7	28	19	13	81
	% among 5 NGOs	17.3%	8.6%	34.6%	23.5%	16.0%	100.0%
	% within NGO	21.5%	11.7%	68.3%	31.7%	26.0%	29.3%
Total	Count	65	60	41	60	50	276
	% among 5 NGOs	23.6%	21.7%	14.9%	21.7%	18.1%	100.0%
	% within NGO	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

ANNEXURE 2

Crosstabulation between the kind of responses gathered from community members from UPHCs within all NGOs against their frequency of availing services from Health Camps.

COMMUNITY RESPONSE

How often do you avail services from Health Camps?		NGO					Total
		Samarpan Society	SPD	Bombay Hospital	DGUS	FRIENDS	
Regularly	Count	16	33	1	14	21	85
	% among 5 NGOs	18.8%	38.8%	1.2%	16.5%	24.7%	100.0%
	% within NGO	24.6%	55.0%	2.4%	23.3%	42.0%	30.8%
	Excluding non-responders	29.6%	60.0%	6.6%	33.3%	55.2%	41.6
Occasionally	Count	20	15	6	19	3	63
	% among 5 NGOs	31.7%	23.8%	9.5%	30.2%	4.8%	100.0%
	% within NGO	30.8%	25.0%	14.6%	31.7%	6.0%	22.8%
	Excluding non-responders	37.0%	27.2%	40.0%	45.2%	7.8%	30.8
Not at all	Count	18	7	8	9	14	56
	% among 5 NGOs	32.1%	12.5%	14.3%	16.1%	25.0%	100.0%
	% within NGO	27.7%	11.7%	19.5%	15.0%	28.0%	20.3%
	Excluding non-responders	33.3%	12.7%	53.3%	21.4%	36.8%	27.4
No response	Count	11	5	26	18	12	72
	% among 5 NGOs	15.3%	6.9%	36.1%	25.0%	16.7%	100.0%
	% within NGO	16.9%	8.3%	63.4%	30.0%	24.0%	26.1%
Total	Count	65	60	41	60	50	276
	% among 5 NGOs	23.6%	21.7%	14.9%	21.7%	18.1%	100.0%
	% within NGO	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

ANNEXURE 3

Crosstabulation between the responses gathered from sampled patients from UPHCs within all NGOs, against their awareness of frequency of conduction of Health camps from UPHCs of their area.

PATIENT RESPONSE

How often are the Health camps organized?		NGO					Total
		Samarpan Society	SPD	Bombay Hospital	DGUS	FRIENDS	
Regularly	Count	17	4	2	1	4	28
	% among 5 NGOs	60.7%	14.3%	7.1%	3.6%	14.3%	100.0%
	% within NGO	56.7%	13.3%	10.0%	3.3%	15.4%	20.6%
	Excluding non-responders	46.8%	19.0%	20%	8.3%	30.7%	34.5%
Occasionally	Count	7	15	3	10	8	43
	% among 5 NGOs	16.3%	34.9%	7.0%	23.3%	18.6%	100.0%
	% within NGO	23.3%	50.0%	15.0%	33.3%	30.8%	31.6%
	Excluding non-responders	28.0%	71.4%	30%	83.3%	61.5%	53.0%
Not at all	Count	1	2	5	1	1	10
	% among 5 NGOs	10.0%	20.0%	50.0%	10.0%	10.0%	100.0%
	% within NGO	3.3%	6.7%	25.0%	3.3%	3.8%	7.4%
	Excluding non-responders	4.0%	9.0%	50%	8.3%	7.6%	12.3%
No response	Count	5	9	10	18	13	55
	% among 5 NGOs	9.1%	16.4%	18.2%	32.7%	23.6%	100.0%
	% within NGO	16.7%	30.0%	50.0%	60.0%	50.0%	40.4%
Total	Count	30	30	20	30	26	136
	% among 5 NGOs	22.1%	22.1%	14.7%	22.1%	19.1%	100.0%
	% within NGO	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

ANNEXURE 4

Crosstabulation between the kind of responses gathered from community members from UPHCs within all NGOs against their frequency of availing services from Health Camps.

PATIENT RESPONSE

How often do you avail services from Health camps?		NGO					
		Samarpan Society	SPD	Bombay Hospital	DGUS	FRIENDS	Total
Regularly	Count	6	2	0	0	1	9
	% among 5 NGOs	66.7%	22.2%	0.0%	0.0%	11.1%	100.0%
	% within NGO	20.0%	6.7%	0.0%	0.0%	3.8%	6.6%
	Excluding non-responders	24.0%	8.3%	0.0%	0.0%	6.65%	10.7%
Occasionally	Count	11	9	3	2	5	30
	% among 5 NGOs	36.7%	30.0%	10.0%	6.7%	16.7%	100.0%
	% within NGO	36.7%	30.0%	15.0%	6.7%	19.2%	22.1%
	Excluding non-responders	44.0%	37.5%	27.2%	22.2%	33.3%	35.7%
Not at all	Count	8	13	8	7	9	45
	% among 5 NGOs	17.8%	28.9%	17.8%	15.6%	20.0%	100.0%
	% within NGO	26.7%	43.3%	40.0%	23.3%	34.6%	33.1%
	Excluding non-responders	32.0%	54.1%	72.7%	77.7%	60.6%	53.5%
No response	Count	5	6	9	21	11	52
	% among 5 NGOs	9.6%	11.5%	17.3%	40.4%	21.2%	100.0%
	% within NGO	16.7%	20.0%	45.0%	70.0%	42.3%	38.2%
Total	Count	30	30	20	30	26	136
	% among 5 NGOs	22.1%	22.1%	14.7%	22.1%	19.1%	100.0%
	% within NGO	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

ANNEXURE 5

Crosstabulation between the responses gathered from sampled patient from UPHCs within all NGOs against the rating towards respective UPHC for the overall care received.

Rating on the overall care received at UPHC		NGO					Total
		Samarpan Society	SPD	Bombay Hospital	DGUS	FRIENDS	
No response	Count	0	0	0	8	0	8
	% among 5 NGOs	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
	% within NGO	0.0%	0.0%	0.0%	26.7%	0.0%	5.9%
Very good	Count	19	23	3	3	14	62
	% among 5 NGOs	30.6%	37.1%	4.8%	4.8%	22.6%	100.0%
	% within NGO	63.3%	76.7%	15.0%	10.0%	53.8%	45.6%
	Excluding non-responders	63.3%	76.7%	15.0%	13.6%	53.8%	48.4%
Good	Count	10	7	12	17	9	55
	% among 5 NGOs	18.2%	12.7%	21.8%	30.9%	16.4%	100.0%
	% within NGO	33.3%	23.3%	60.0%	56.7%	34.6%	40.4%
	Excluding non-responders	33.3%	23.3%	60.0%	77.2%	34.6%	42.9%
Fair	Count	1	0	5	2	2	10
	% among 5 NGOs	10.0%	0.0%	50.0%	20.0%	20.0%	100.0%
	% within NGO	3.3%	0.0%	25.0%	6.7%	7.7%	7.4%
	Excluding non-responders	3.3%	0.0%	25.0%	9.0%	7.7%	7.8%
Poor	Count	0	0	0	0	1	1
	% among 5 NGOs	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
	% within NGO	0.0%	0.0%	0.0%	0.0%	3.8%	0.7%
	Excluding non-responders		0.0%	0.0%	0.0%	3.8%	0.8%
Total	Count	30	30	20	30	26	136
	% among 5 NGOs	22.1%	22.1%	14.7%	22.1%	19.1%	100.0%
	% within NGO	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

ANNEXURE 6

Crosstabulation between the responses gathered from sampled community members from UPHCs within all NGOs against the rating towards respective UPHC for the overall care received.

COMMUNITY RESPONSE

Rating for the overall care received at UPHC		NGO					Total
		Samarpan Society	SPD	Bombay Hospital	DGUS	Friends	
No response	Count	1	2	7	8	1	19
	% among 5 NGOs	5.3%	10.5%	36.8%	42.1%	5.3%	100.0%
	% within NGO	1.5%	3.3%	17.1%	13.3%	2.0%	6.9%
Very Good	Count	8	2	6	4	1	21
	% among 5 NGOs	38.1%	9.5%	28.6%	19.0%	4.8%	100.0%
	% within NGO	12.3%	3.3%	14.6%	6.7%	2.0%	7.6%
	Excluding non-responders	12.5%	3.4%	17.6%	7.6%	2.0%	8.2%
Good	Count	5	4	14	11	13	47
	% among 5 NGOs	10.6%	8.5%	29.8%	23.4%	27.7%	100.0%
	% within NGO	7.7%	6.7%	34.1%	18.3%	26.0%	17.0%
	Excluding non-responders	7.8%	6.8%	41.1%	21.1%	26.5%	18.4%
Fair	Count	43	48	10	31	24	156
	% among 5 NGOs	27.6%	30.8%	6.4%	19.9%	15.4%	100.0%
	% within NGO	66.2%	80.0%	24.4%	51.7%	48.0%	56.5%
	Excluding non-responders	67.1%	82.7%	29.4%	59.6%	48.9%	61.1%
Poor	Count	8	4	4	6	11	33
	% among 5 NGOs	24.2%	12.1%	12.1%	18.2%	33.3%	100.0%
	% within NGO	12.3%	6.7%	9.8%	10.0%	22.0%	12.0%
	Excluding non-responders	12.5%	6.8%	11.7%	11.5%	22.4%	12.9%
Total	Count	65	60	41	60	50	276
	% among 5 NGOs	23.6%	21.7%	14.9%	21.7%	18.1%	100.0%
	% within NGO	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%