

Internship Training

at

DIRECTORATE OF HEALTH SERVICES

SOUTH WEST DISTRICT

GOVT.OF DELHI

Study/Project Title

**FUNCTIONING AND PATIENT SATISFACTION LEVEL**

by

Lt Col Puneet Sharma

Enroll No. PG/15/061

Under the guidance of

**Dr. B S Singh**

**Associate professor**

Post Graduate Diploma in Hospital and Health Management

2015-17



**International Institute of Health Management Research**

**New Delhi**

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that Lt Col Puneet Sharma student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has undergone internship training at **Directorate Of Health Services South West District Govt Of NCT** 07/2/2017 to 07 /5/2017

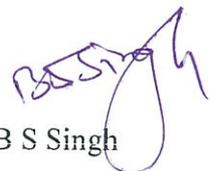
The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.



Dr. A.K. Agarwal, Dean  
Academics and Student Affairs  
IIHMR, New Delhi



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1<sup>st</sup> Feb, 2017

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To,

Dr. Taran Singh  
MO (DSHM)

Dear Sir,

Greetings from IIHMR Delhi Placement Cell!

International Institute of Health Management Research (IIHMR) Delhi, is a premier Institute conducting the AICTE approved 2 year Post Graduate Diploma Program in Hospital and Health Management. IIHMR, Delhi is the part of IIHMR Society which has four campuses in Delhi, Bangalore, Kolkata & Jaipur. IIHMR Jaipur was the first campus established 30 years ago and is today rated as one of the top Healthcare Management Institution. All the other campuses have benefited from the best practices developed over the years at Jaipur and pursue the same spirit of excellence, instilling it in the students who pass through our portals.

After completion of course, as a part of their study program, student is required to undergo dissertation and internship for twelve weeks during 1<sup>st</sup> Feb – 30<sup>th</sup> April, 2017 for a project assignment. They are assessed on the basis of their performance during this period. The participants are required to complete study based on research methodologies principles. Our student **Col Puneet Sharma** is very keen to pursue the dissertation from your esteemed organization. We request you to kindly provide an opportunity to our student to work in your facility and write Dissertation Report subsequently, which would be presented in IIHMR, Delhi.

In case of any query, you are requested to contact us anytime.

With best regards,

Yours Truly

Prof. (Dr) Ashok Kumar Agarwal  
Dean- Academic & Students Affairs

*Dr. Nurtan pl give a letter of mentor to Col Sharma under intnc to Prof Agarwal*

*leen  
7/2/2017*



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Let Puneet's email add. Puneet201176@gmail.com

*AD (Profile) ...*  
*14.2.2017 (DSHM)*  
*For details w/ COMS ...*  
*12/2/17*  
*CONO(SW) - Pl. approve and allow to conduct study / visit of ANMC*  
*14.2.2017 (DSHM)*

Subject: Request letter -Col. Puneet(IHMR)  
To: Director DHS <dirdhs@nic.in>

Date: 02/14/17 05:15 PM  
From: SPM DSHM <dshmspm@gmail.com>

PDFProvider.pdf (259KB)

Sir/Madam

Please find attached request letter in respect of Col. Puneet (IHMR) for pursuing dissertation.  
For needful action from your end.

State Programme Management Unit,  
Delhi State Health Mission  
B-Wing, 6th Floor, Vikas Bhawan-II, Civil Lines,  
New Delhi-110054

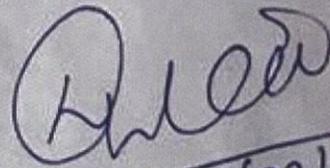
Phone No. 23812902

To

. All Mohalla Clinics & Pradhan, Dohan,

Please

co-operate fully with Col. Puneet  
Sharma & let him know all the  
functionary of AAMC



17/03/17  
Chief District Medical Officer

South West Distt  
Dte. of Health Services  
Govt. of NCT of Delhi

**INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH**  
**NEW DELHI**  
**CERTIFICATE BY SCHOLAR**

This is to certify that the dissertation titled “**Functioning And Patient Satisfaction Level: Mohalla Clinics, South West Delhi**” at Directorate Of Health Services South West District Govt.Of Delhi

has been submitted by Lt Col Puneet Sharma Enrollment No PG/15/061 under the supervision of Dr. B S Singh Associate Professor for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period of three months 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.



Signature

## Certificate of Approval

The following dissertation titled “**Concept and Patient Satisfaction level: Mohalla Clinics, South West Delhi** ” is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of Post Graduate Diploma in Health and Hospital Management for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

**Dissertation Examination Committee for evaluation of dissertation.**

Name

Signature

Dr. S.K. Patel

S.K. Patel

Dr. B.S. Singh

B.S. Singh

Dr. Dharamraj

Dr. Dharamraj

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## *Acknowledgement*

Every successful story is a result of an effective team work, a team which comprises of a good coach and good team players. Likewise this project report is no exception. This has been a meticulous effort of a group of people along with me. I want to take this opportunity to thank each and every one who has been a part of this report.

To start with, I take immense pleasure to thank **Dr. Sanjeev Kumar** (*Director-International Institute of Health Management Research-Delhi*) and **Dr. A. K. Aggarwal** (*Dean, International Institute of Health Management Research- Delhi*) for helping me to take permission from the State government to do my dissertation related to Mohalla Clinics( South West Delhi). I am highly indebted to Dr Kirti Bhushan DGHS for giving me the permission to conduct my study in the South West Delhi. Iam also grateful to Dr Rakesh Gilani CDMO, South West Distt ,Dte. of Health Services Delhi for providing me all the support and guidance in all possible ways. It could not have been possible to successfully complete my project without the timely advice and encouragement of my mentor **Dr. B.S. SINGH**. Last but not the least I would also like to thank all the staff of the Mohalla Clinics that I visited for their full cooperation.

## Abbreviations

AWC	Anganwadi Centre
AWW	Anganwadi Worker
AWH	Anganwadi Helper
SC and ST	Schedule Caste and Schedule Tribe
ASHA	Accredited Social Health Activist
MIS	Management Information System
WHO	World Health Organization
PHC	Primary Health Centre

## **Introduction**

### **Mohalla Clinic: Healthcare at doorstep**

Primary health care is one of most important component of health care in developing country. As per the directive principles of state policy under Indian constitution, it is “the duty of State to raise the level of nutrition and the standard of living and to improve public health”. The government of Delhi introduced the concept of neighborhood health Clinic (Aam Aadmi Mohalla Clinic) in Delhi to reduce the burden of secondary & Tertiary level hospitals which are already highly overburdened and to make primary health care more accessible to its citizens.

One of the measures taken by AAP government to boost healthcare in Delhi, perhaps it is the Mohalla Clinic that has cheered the citizens the most. This Clinic concept was developed in view that Clinic must be very close to resident of people or within walking distance. But then, of course, after the first Clinic began in July 2015 in Punjabi Basti in Peeragarhi, the government had promised 1,000 of them by 2016 and only 107 are up and running. A government official claimed that 200 more will be inaugurated in state-run schools by year-end.

Recently, Kofi Annan, former secretary general of the United Nations, praised this initiative of the AAP government. His letter to chief minister Arvind Kejriwal described the scheme as "successful and impressive" and added, "...you have scaled up the provision of universal free health services, most notably in providing free primary healthcare services through your new Mohalla Clinics".

The aim of this study is to develop an understanding about the neighborhood health Clinic concept and its scope and to examine the level of patient satisfaction for the same.

## **Objective**

To study the level of Patient Satisfaction of Mohalla Clinic

## Review of Literature

The facility, called the “Mohalla” (or people’s) Clinic, was opened in July 2015 by Delhi’s chief minister, Arvind Kejriwal. This is the first of 1,000 Clinics that he announced would be opened in India’s capital for the millions of people in need.

These Clinics are meant to provide consultation, free essential drugs, immunization for children, 50 basic tests and counseling. At a later stage, the government plans to have even specialist doctors in the facilities on a rotational basis.

### 3.1 Remarkable features of the initiative

1. Part of 3 tier healthcare system- Forming the bottom most layer with the vision to remove congestion from hospitals across the cities.
2. Zero Cost Model - Zero cost consultation, Zero cost medicines, Zero Cost Diagnostic/pathology tests
3. This initiative will destroy Quack Industry. Right now, a daily wage laborer has to spend more money to visit government hospital than a private Clinic. He spends money on many things like - 2hr wait at hospital and Travel time means his half day’s wage gone, Travel expenses, if doc recommends tests then stand in line for tests another half day wage gone, visit the doc again after 2–3 days with the results of the test. Again travel and again wage loss. This is why people resort to **unqualified quacks who usually prescribe steroids** to suppress the symptoms rather than curing the issue.
4. Initially Clinics were predicted to have cure rate of 85 % but surprisingly the **actual cure rate turned out to be 97%**. Remaining 3% can be referred to poly-Clinics and Hospitals. This will reduce the crowds in hospitals. Right now, it is becoming difficult to differentiate between crowded railway platforms and hospitals.
5. **Patient details/photo recorded with tablet.** This has many advantages like Accountability of the medicines Patient can visit any Clinic and his medical history will be available to the doctor on his/her fingertips. Data can be analyzed to roll-out region specific schemes.

6. These Mohalla Clinics will be particularly helpful for aged patients because these are almost at their doorsteps, they can go twice a week to check their blood pressure, sugar levels, etc. These visits cost government a fraction of what would have to be spent if they need hospitalization.
7. At the next level, Government is creating an app which will alert the patient when his turn has come. Then they can take appointments via cell phone through the app. The advantage of technology is that it simplifies the process as well as makes it cheaper.
8. Final benefit is to the government itself- **Huge amount of data** from so many Clinics. Regional heat-maps and dashboards can be created with help of data analytic methods which in turn will help in rolling out “**Mohalla specific health schemes**”

### **3.2 Concept of Neighborhood Health Clinics (*Mohalla Clinics*) of Delhi.**

The government of national capital territory of Delhi inaugurated its first Neighborhood Health Clinics (*Mohalla Clinics*) in July 2015 at *Rajiv Gandhi, JJ Panjabi Colony*, and a relief camp in *Peeragarhi*. The capital of country does not follow standard primary health care system which had been following in other states. Delhi has its own health care model from pasts due to diversity and demographic needs. Delhi has hundreds of Primary health Clinics from multiple agencies in health care like CGHS (central government health scheme), ESIC (Employees' State Insurance Corporation), MCD (Municipal Corporation of Delhi), charitable trusts, NDMC (New Delhi Municipal Council) (table.1)

<b>Primary health Clinics of different organization</b>	<b>numbers</b>
Delhi Government Dispensaries(DGD)	202
Seed Public Urban Health Centers (PUHC)	58
CGHS Wellness Centres*	99
ESI Dispensaries 32+1 Mobile Dispensary*	32+1
MCD Dispensaries	155
NDMC Dispensaries	14
AAMC	106

Total (*Few services are only for beneficiaries/ card holder)	667
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*Table.1 (Sources, website of particular organization dated January 2017)*

Currently Delhi has 106 Neighborhood Health Clinics. Government announces to open 1000 more Clinics and each Clinic would cater population of 10,000. These Clinics will be in Pota cabin like structure. These Clinics would provide 110 medicines and 212 tests for free. The Directorate General of Health, invited private practitioners to join these Clinics, as empanelled doctors under pilot project. Each Clinic is link to DGD for medicine and other support.14 lakh patients had been treated in these Clinics from March 2016 to October 2016 according to government resources however authenticity of data may vary.

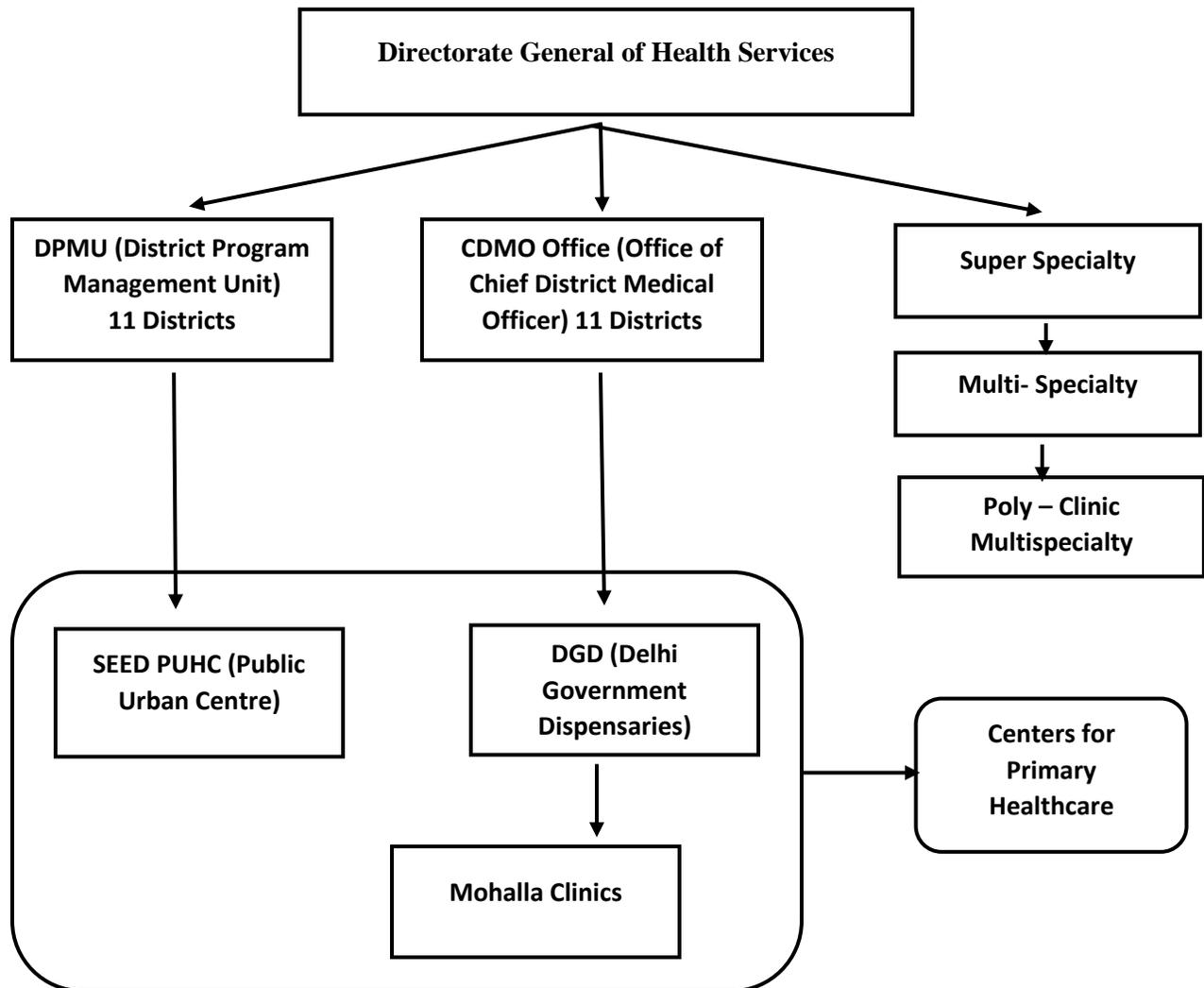
### **3.3 New healthcare model for Delhi.**

The new model will be four tiers, it would include.

- Neighborhood Health Clinics (Mohalla Clinics) of Delhi
- PolyClinic-multi specialty Clinics
- Multi-specialty hospital (earlier called secondary level Hospitals)
- Super specialty hospitals (earlier called tertiary level hospitals)

Through this system, the government aims to improve the patient care system with better coordination between hospitals and Clinic

**Administrative structure for Neighborhood Health Clinics (*Mohalla Clinics*)**



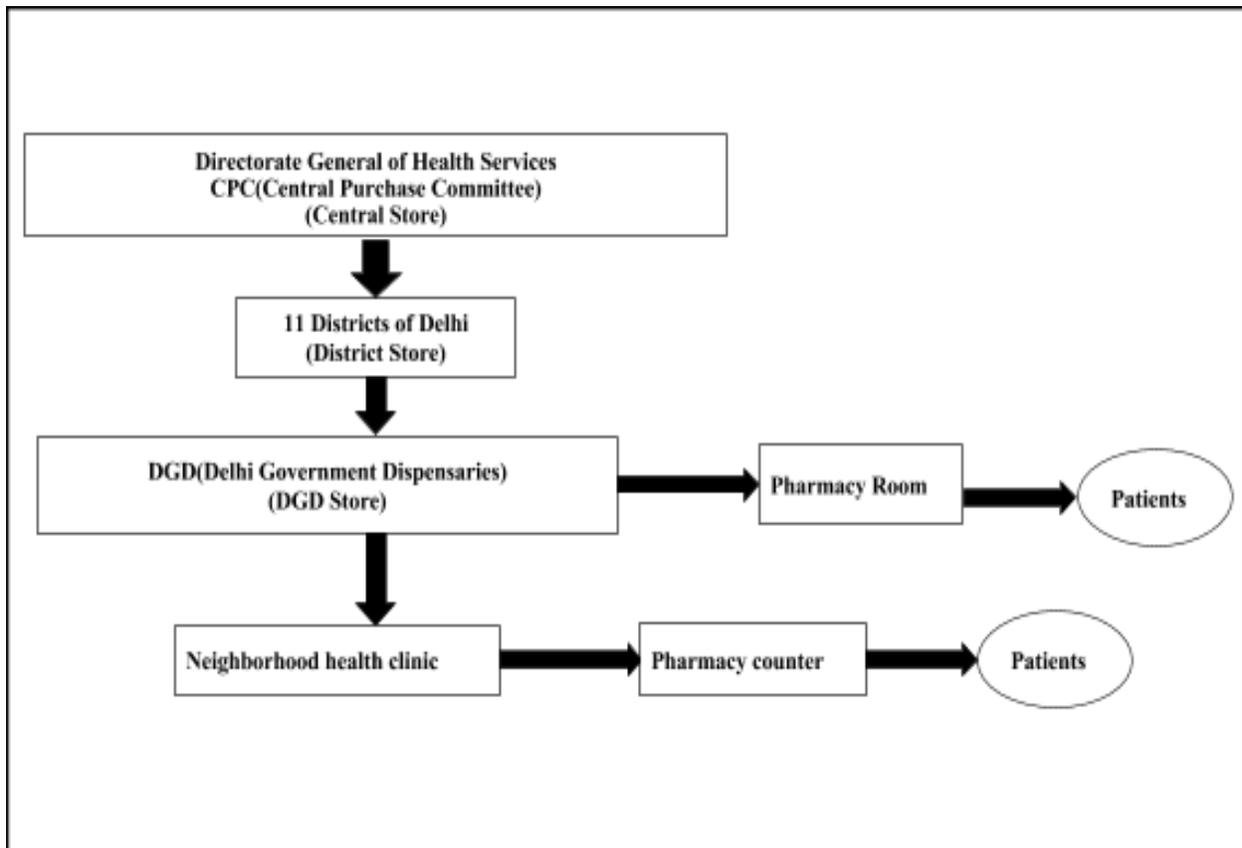
*Fig.1. New administrative structure for Clinics.*

**The Supply Chain Management of Clinics.**

The supply of medicine and other health related equipment is sent on monthly bases or as per need basis by linked Delhi Government Dispensary .The store in charge (Pharmacist) brings medicines and other health related equipment from the district store. Store in charge brings

indent for both their Delhi Government Dispensaries and Mohalla Clinic. Store in charges had been maintaining all the records of drugs for smooth supply in Mohalla Clinics.

The district store brings indent from central store (Directorate General of Health Services, *Karkardooma*) (fig.2).



### 3.4 Scope of Clinic.

It will provide better easy geographical accessibility to patient in utilization of health services in terms of easy reachability and less waiting time. These Clinics will be on every 10,000 then would able to provide more time to each patient. It will be better doctor patient ratio and it will increase better referral and counseling services. The health care professional from top to bottom always found with overburden in every public health institution in the country. More Clinics would provide better services in preventive and curative aspects. This Clinic will increase quality of treatment. When easy & friendly government facility will be available to people, there will be

low chances to visits local quacks by patients.

Neighborhood Health Clinics (Mohalla Clinics) is neither a sub center nor a primary health Centre, community health Centre. It doesn't fit in of the existed primary health care model of India.

### **3.4.1 Sub Centre Model.**

- A Sub Centre covers 5000 population in plain area and 3000 population in hilly/tribal/desert areas.
- Services available in a Sub-Centre are Immunization, home visits, house to house survey, OPD services, Family Planning services, Antenatal care, Child Health, Newborn Care, Labor Room, Coordination and Monitoring services with AWWs, ASHAs, formation of Village Health Sanitation and Nutrition Committee. Running of all national health programs. Adolescent Health Care, School Health Services, Control of Local Endemic Diseases, Safe Abortion Services (MTP), water and Sanitation, Outreach/Field Services, PRI etc. Fluorosis affected (Endemic) Areas,
- Staff recommended 3 essential and 5 desirable according to type of Sub center.

### **3.4.2 Primary Health Centers (PHC) Model.**

- A PHC varies from State to State that include a Block level PHCs (located at block HQ and covering about 1, 00,000 populations and with varying number of indoor beds) and additional PHCs/New PHCs covering a population of 20,000-30,000 etc.
- PHC can be classified according to the delivery load. PHC catering monthly load less than 20 deliveries in a month it would called type A and if delivery load is above 20 or more then it would type B.
- Services available in PHC are OPD services,24 hours emergency services, Referral services, Inpatient services (6 beds),All Services available in sub center ,Management of Reproductive Tract Infections/Sexually Transmitted Infections, Promotion of Safe Drinking Water and Basic Sanitation, Micronutrient (Vitamin A & IFA) management, De-worming, Capacity building, Monitoring & Evaluation, Mid-Day Meal, Health Promoting Schools, Prevention and control of locally endemic diseases like malaria, Kala Azar, Japanese Encephalitis etc. (Essential) Collection and reporting of vital

events.(Essential)Collection and reporting of vital events.(Essential),Health Education and Behavior Change, Communication (BCC)(Essential), Basic Laboratory and Diagnostic Services, Record of Vital Events and Reporting, Health, Training, Functional Linkages with Sub-Centers, Physical Medicine and Rehabilitation (PMR) Services, Maternal Death Review (MDR),

- Staff recommended for type A is minimum 13 & desirable 18 and for type B 14 minimum & 21 desirable.

### 3.4.3 Community Health Centers (CHC) Model.

- A CHC cover 4 PHCs with 1, 20,000 population in plain area and 80,000 population in tribal/hilly/desert areas. CHC is a 30-bedded hospital.
- Services available in CHC are OPD services, providing specialist care in Medicine, Obstetrics and Gynecology, Surgery, Pediatrics, Dental and AYUSH, 24 hours emergency services, Disaster Prevention Measures, Nutrition Services (coordinated with ICDS),All services given in Sub center and PHC is also provided in CHC.
- Staff recommended minimum 46 and desirable 52.

### 3.4.4 Primary Urban Health Centers (PUHC) model as per Delhi State Health Mission

- A PUHC cover 50,000 to 75,000 populations.
- Services available in a PUHC are the services listed in PHC and CHC except bed facility, *Rogi Kalyan Samiti*, AHSAs, Health and Sanitation Committees, Citizen’s Charter for Primary Urban Health Centers.

Staff recommended, as shown in table.2

Category of staff	Recommended
Medical Officer In charge	1
Second Medical Officer	1
Pharmacist (Storekeeper)	1
Pharmacist	1
Public Health Nurse	1

Auxiliary Nurse –Midwife	1 for center (plus 1 for each 10000 urban poor population attached to the center) in slums/ JJ Clusters etc.
Laboratory Technician	1
Dresser	1
Nursing Orderly	1
SCC	3
CDEO cum assistant	1
Social (Community) Mobilization Officer	1
In case of a co-located AYUSH unit	
I. Medical Officer (AYUSH)	1
ii. Pharmacist (AYUSH)	1
iii. Nursing Orderly	1
Total	18
*This recommendation is for 50,000 population. In case of higher catchment populations the staff will be increased proportionately till such time as there is one PUHC for every 50,000 population. In addition care must be taken to ensure sufficient leave reserve and staff for special Programs like Pulse Polio etc.	

*Table.2 (Source-Public Health Standards for Primary urban health centers)*

### **3.4.5 Delhi Government Dispensary Model**

- A DGD is covering 50,000 to 1, 00,000(No exact guideline available) population area.
- Services available in DGD are all services given in Sub center, PHC, CHC. No bed services and specialization treatment is available.
- Support to Mohalla Clinic.
- Staffing pattern as shown in table.5 but no standard guideline is available till date. Staff

had been posted without any policy and standard guidelines.

#### **3.4.6 Neighborhood Health Clinics (Mohalla Clinics) Model.**

- A Clinic would covers 10,000 population area.
- Services available in Clinic is only general OPD for minor ailment, no national health program is going in these Clinics and other work performing in above said models.
- Staff posted only one Doctor and its helper, in four Clinics pharmacists also available. ANMs had been posted from DGD and PUHC without any standard guidance and job responsibilities, two Clinics has Laboratory Assistant also. No standard guideline is available till date.

#### **3.4.7 New Innovative Technologies in Clinics.**

First time in India new technologies were used at primary health care level. These Clinics utilized technology in their routine work. The details are listed below.

- Online Data:-The entry of patients is done on tablet PC name *Swasthya Slate*. In the tablet the photo of patients is taken. The first time taken in tablet entry is approximate 5 to 10 minutes depending upon speed of physician or registration of patients. Second or follow up of patients takes approximate same time for entry of patients. Government is still working on tablets software. Software had been developed by wish foundation.
- Medicine ATM/Vending Machine:-The automatic vending machine had been installed in one of this Clinic at *Todhpur* on pilot project bases as a trial testing. This medicine vending machine could hold 60 to 70 types of medicines. The machine is dispensing 50 medicines which are prescribed by doctors. The vending machines build with sensor technology. Wish foundation develop this under the project named SCALE. The vending machine trial was also taken place in many cities of world like England, United Kingdom in 2010 and in 2014 at Arizona.

#### **3.5 Model (Public Private Partnership) Adopted in Neighborhood Health Clinics (Mohalla Clinics)**

In this PPP model Wish foundation and USAID (US Agency for international development) are philanthropy partners and Unipart Diagnostics is working as diagnostic test partner (main lab address-G-49, *Lajpat Nagar-2*, New Delhi-110024).The Clinics have been open in rented buildings of approximately 50-60 square feet area (two rooms & one toilet).The bills of

water, electricity, rent of the building has been paying by Delhi government. IEC (Information Education Communication) will be provided and maintained by Office Chief District medical officer. Doctor's working model is completely incentive based. Doctor would be given thirty rupees per patients. Doctor can appoint sweeper and helper according to his/her wish without any formal test /education. Sweeper and helper would be paid two and eight rupees per patients respectively by Delhi government .Furniture has been provided by government .Use of token vending machine system for the patients while waiting for their turn.

Private empanelled doctors had been assigned many role and responsibilities in these Clinics like.

- Doctor has to manage four hour OPD Clinic.
- Responsibility of keeping the Clinic clean and make it patient friendly.
- The biometric listing of patients has to be maintained along with list of medicines dispensed.
- The patients shall be examined using an internet connected electronic tab based protocol.
- All medicines will be prescribed and dispensed by the doctor.
- No fees/charges will be collected from patient.

### **6.3 Comparative Analysis between New Neighborhood Health Clinics (Mohalla Clinics) and old Delhi Government Dispensaries, PUHC Public Urban Health Centre.**

<b>Services</b>	<b>Neighborhood Health Clinics (Mohalla Clinics)</b>	<b>Delhi Government Dispensaries</b>	<b>PUHC Public Urban Health Centers</b>
Funding	Fully by state government.	Fully by state government.	Partial funding by state government and partial by .
Timings	9:00 am to 1:00 pm	8:00 am to 2:00 pm	8:00 am to 2:00 pm
Consultation	Free of cost	Free of cost	Free of cost
Medicine	Free of cost, same	Free of cost, Free of	Free of cost, Free of cost,

s	medicines available as purchase by (CPA)Central purchasing Agency of Delhi government	cost, same medicines available as purchase by (CPA)Central purchasing Agency of Delhi government	same medicines available as purchase by (CPA) Central purchasing Agency of Delhi government.  Few drugs also (National Rural Health Mission) stock
De Addiction counsell ing	Available	Available	Available
Family welfare counsell ing	Available	Available	Available
Life style disease counsell ing	Available	Available	Available
Immuniz ation for children	only available in 1 Clinic	Available in two days of week, Wednesday and Friday	Available in two days of week, Wednesday and Friday
<b>Services</b>	<b>Neighborhood Health Clinics (Mohalla Clinics)</b>	<b>Delhi Government Dispensaries</b>	<b>PUHC Public Urban Health Centers</b>
Check of Antenatal (Pregnan cy Checkup)	Not available	Available in two days of week, Tuesday and Thursday(days may be changed in each center due other activities),however every DGD is running 2 days for ANC checkup and registration	Available in two days of week, Tuesday and Thursday(days may be changed in each center due other activities),however every PUHC is running 2 days for ANC checkup and registration

DGEHS( Delhi Government Employees Health Scheme)	Not available	Pensioner /Beneficiaries/Card holders depend upon indent medicine, as Delhi Government have tie up with private pharmaceutical shop, which provide drugs to them.	Not available
<b>Family Planning Services</b>			
Condom	Not available	Available	Available
Oral Contraceptive (Mala-D)	Not available	Available	Available
Emergency Oral Contraceptive Pills ( E-pill)	Not available	Available	Available
Facility of Intrauterine Contraceptive Device IUCD/Copper-T, CuT-380A & CuT-375A	Not available	Available	Available
DOTS	Not available	Available	Available

center			
ICTC	Not available	Available in 17 DGD	Not available
Services	Neighborhood Health Clinics (Mohalla Clinics)	Delhi Government Dispensaries	PUHC Public Urban Health Centers
Blood & Urine tests	Available for free of cost as Clinic had tie up with private laboratory	Available in limited numbers for free of cost	Available in limited numbers for free of cost
Dressing Facilities	Available	Available	Available
Treatment for Leprosy	Not available	Available	Available
<b>Implementation of various health programs</b>			
Availability of ASHA worker as per NRHM scheme	Not available	Available	Available
Visit of newborns by ANM after delivery (under HBNC-home based)	Not available	Available	Available

neonatal care)			
Mission <i>Inderdhanush</i> Program	Not available	Available	Available
Participation (conducting) in Mock Drill/Disaster Management	Not available	Available	Available
Organization of Health and Nutrition Day / Adolescent Group Meeting / Outreach session	Not available	Available	Available
Postnatal visits	Not available	Available	Available
Follow up of Malno	Not available	Available	Available

urished / Anemic Individual / High risk pregnant women			
Services	Neighborhood Health Clinics (Mohalla Clinics)	Delhi Government Dispensaries	PUHC Public Urban Health Centres
Facilitation of Institutional deliveries	Not available	Available	Available
Screening of Senior Citizen / Cataract Surgery Facilitation	Not available	Available	Available
Ambulance	Available	Available	Available

on Call/C ATS- 102			
Payment of JSY incentive	Not available	Available	Available
Household survey by ANMs &ASHAs	Not available	Available	Available
Entries of OPD by Tablet	Available	Not available	Not available
Dispense of medicine by vending machine	only available in 1 Clinic ,only 50-60 medicine can be distribute	Not available	Not available
<b>Recruitment &amp; Selection of Staff</b>			
Attended	One available, which has been hired by empanelled private doctor	Not available	Not available
Police verification of Staff	Not done	Done of each of every recruited staff	Done of each of every recruited staff
Paramedics	Nothing as according to wish of by Doctor	Joined after written exam by DSSSB	By simple interview
Doctor	By simple interview	Joined after qualifying UPSC(Three tier	Joined after written exam &

		exam)	interview
Attendant	Nothing as according to wish of by Doctor	-----	-----
Salary of Doctor	30 rupees per patients(30 x per patient=Total amount, For example if pt. is 300 then it will 300x30=9000 per day, approximately 225000 in whole month.	Fixed salary as per government pay scale 47000 to 60000 rupees per month approximately.	Fix consolidated salary, as per NRHM requirement. 50000 to 60000 approximately per month.

### 3.7 Local and World wide appreciation for this initiative

1. French media- [Inde: des cliniques dernier cri pour](#)
2. Washington Post- [What New Delhi's free Clinics can teach America about fixing its broken health care system](#)
3. UK based Lancet, the most respected medical journal in the world. - [Delhi's Mohalla Clinics proving popular with residents: Lancet](#)
4. Gujarat wants to replicate [Eye on polls, Gujarat govt to set up 'Mohalla Clinics' in 4 cities](#)
5. Pune wants to replicate [Towing AAP line, PMC mulls Mohalla Clinics](#)
6. Karnataka wants to replicate [Karnataka to replicate Delhi's 'Mohalla Clinics'](#)

### Research Methodology

**STUDY AREA:** Four Mohalla Clinics out of eleven in South West District, Delhi namely:-

- 1] Pochanpur, Sector-23, Dwarka
- 2] RZ-247A, Ajay Park, Najafgarh
- 3] C-92, Sahyog Vihar

4] RZ-D-87, A/1, Dabri Extension.

**STUDY DESIGN:** Cross sectional descriptive study

**STUDY POPULATION AND SAMPLING:** Patients from the selected four Mohalla Clinics in South West District, Delhi. 25 patients from each Clinic (100 in total) with the help of convenience sampling method, who gave consent to participate were selected.

**DATA COLLECTON:** A questionnaire was designed to collect data from the patients. The questionnaire mainly tried to tap the satisfaction level based on certain parameters identified through literature review. Survey Method was used to collect data using 5 point Likert scale (Ranging from Highly Satisfied -5 to Highly Dissatisfied -1) The questionnaire was administered at the point of service.

#### **SELECTION CRITERIA -**

- **Inclusion Criteria:-**
  - General Population is considered as patients those who have visited the Clinic once in Life.
- **Exclusion Criteria:-**
  - Patients with Mental Illness and severe Injuries

**STATISTICAL TOOLS USED:** The collected data has been analyzed by using Ms Excel and SPSS. The statistical tools used were descriptive statistics (Frequency, percentage and mean)

**TIMELINE:** Three months (Feb'17 to May 15)

#### **ETHICAL CONSIDERATION**

During the study, Ethical Consideration was kept in mind which included Voluntary Participation, Confidentiality and Anonymity.

**LIMIT ATIONS OF THE STUDY:** The study was limited to four Mohalla Clinics only and therefore; the findings of the study cannot be extended to other areas. All the findings and observations made in the study were purely based on the respondents' answers which may be biased.

## **Data Analysis and Interpretation**

### **A. Quantitative Analysis**

The Satisfaction level of the patients visiting the Clinic has been analyzed by taking into account the socio demographic factors and the following variables (facilities/services) namely-Physical facilities, Registration services, Doctors services, Pharmacy services, Quality of services in the Clinic. Each variable has got a number of indicators which the patients have rated on the scale of 5,4,3,2,1. We shall find not only the overall satisfaction level of the patients but also see in terms of each selected Clinic individually.

**Table 1. SOCIO DEMOGRAPHIC FACTORS**

SNo	Particular	Pochanpur	Ajay Park	Sahyog Vihar	Dabri	Total
1.	<b>Sex</b>					
	Male	15	14	06	10	45
	Female	10	11	19	15	55
2.	<b>Age</b>					
	0-5	0	0	05	01	06
	6-15	0	0	05	01	06
	16-30	04	05	07	07	23
	31-45	19	16	04	11	50
	46-59	02	02	02	01	05
	60 and above	0	02	02	02	06
3.	<b>Marital Status</b>					
	Married	20	19	14	14	67
	Divorcee	0	0	0	0	0
	Unmarried	05	08	4	08	25
	Widow	02	01	0	0	03
	Widower	01	02	01	01	05
4.	<b>Education</b>					
	- Up to Primary	05	06	18	16	45
	- Above Primary below secondary	14	14	07	08	43
	- Above Secondary below High Secondary	04	05	0	0	09
	- Above High Secondary below Graduate	02	0	0	01	03
5.	<b>Occupation</b>					
	Service	06	0	04	0	10
	Shops	03	03	0	02	08
	Skilled worker	05	04	01	02	12
	Un skilled Worker	03	04	01	02	10
	Retired	01	03	01	0	05
	Housewife	07	06	13	10	36
	Student	04	06	0	05	
6.	<b>Average monthly Household income</b>					
	0-4999	0	0	0	0	
	5000-9999	04	02	07	05	
	10000-19999	05	07	06	03	
	20000&above	02	03	00	00	

Table 1 brings out the socio demographic factors of the patient visiting the 4 Mohalla Clinics

1. The data reflects that 55% of the patients visiting the Clinics are females and 44% were males. It is also seen out of the total of 25 Patient visiting Sahyog Vihar Clinic 19 are females because the doctor at Sahyog Vihar is gynecologist.
1. Majority of the patients visiting the Clinic belong to the age group of 16 to 45 years being 73% and there are only 6 % of the patient who are above the age of 60 years and below the age of 5 years.
2. The data reflects 67 % of the patients visiting the Clinic are married while 25 % are unmarried, 3% are widow and 5% are widower.
3. It can be observed from the data that 45 % of the patients visiting the Mohalla Clinics were educated upto primary level while 43 % were educated up to secondary level, only 9% were above secondary level and 3 % educated above higher secondary but not up to graduate level.
4. Out of all the patient 36 % were housewives 15% were found to be students, 12% were skilled workers 10% were service class, and unskilled workers were 10%, 8% were shopkeepers while 5 % patients were retired.

**Table 2. Visits**

SNo	VISITS	Pochanpur	Ajay Park	Sahyog Vihar	Dabri	Total
1.	<b>Type of visit</b>					
	First Visit	10	05	01	05	21
	Follow Up Visit	15	20	24	20	79
2.	<b>Purpose of visit</b>					
	Cough ,Cold ,Fever ,Anemia ,Gastro ,Body pain, UTI, Vomiting, Throat infection	17	22	16	18	73
	Hypothyroid, BP, Diabetes, Chronic lung disease	01	0	04	01	06
	Pregnancy	0	0	05	0	05
	Blood Tests	06	04	0	06	16
3.	<b>Visits during last six months</b>					
	Zero visit	02	01	0	04	07
	One visit	08	05	07	10	30
	Two visits	11	12	13	08	44
	Three visits	04	07	04	03	18
	Four visits	0	0	1	0	1

**Table 1** reflects the type, purpose and frequency of visits of patients to Mohalla Clinic

1. Out of all the 100 patients 21 were visiting the Clinic for the first time while 79 were on a follow up visit.
2. The purpose of visit of 73 % of patients were cough , cold , fever and anemia , body pain, gastro, UTI, vomiting and throat infection. While 16% came for blood tests. Only 6% patients complained of thyroid, B.P, Diabetes , chronic lung disease and 5% females came related to pregnancy.

- Out of all the patients 62% had visited the Clinic 2 to 3 times in last 6 months, 37 % had only visited only once in last 6 months while 7 % were new to the Clinic while only 1 patient had visited only one four times in 6 months.

**Table 3. Persons highly satisfied/ satisfied with the Physical Facilities in the Mohalla Clinics.**

<b>Components</b>	<b>Pochanpur</b>	<b>Ajay Park</b>	<b>Sahyog Vihar</b>	<b>Dabri Extension</b>
Waiting Area is clean	100%	100%	8%	100%
Waiting Area has enough sitting arrangements	92%	100%	0%	96%
Amenities in waiting area ( chairs, fan and drinking water)	100%	100%	0%	96%
Availability of health promotion information in waiting area	48%	88%	44%	36%
Availability of toilet in Clinic	80%	76%	4%	60%
Availability of suggestion/complaint box	0%	0%	0%	0%
Your overall level of satisfaction during the visit to the Clinic	100%	100%	44%	100%
Cleanliness status of Clinic surroundings	8%	96%	96%	100%
Total sample	25	25	25	25

**Table 3.** shows the level of the satisfaction of the patients visiting the Clinic with respect to physical facilities.

- The patient visiting Pochanpur Mohalla Clinic were highly satisfied with the cleanliness of the waiting area, amenities like fan , chair, fan and drinking water and toilets while the cleanliness status of the surroundings still needs to improve.
- The patients of Ajay Park Mohalla Clinic were highly satisfied with the cleanliness, seating arrangement and amenities of the waiting area along with the cleanliness status of the surroundings. The health promotion information was also found to be satisfactory.
- The Sahyog Vihar Mohalla Clinic on the other hand had poor availability of amenities in waiting area. The patients were not satisfied with the cleanliness status of the Clinic surroundings.

4. Patients of Dabri extension Clinic were highly satisfied with the cleanliness of the waiting area and surroundings, along with all the amenities provided and seating arrangements for the patients
5. It can be observed from the data that all the Mohalla Clinics lack suggestion/complaint box. And some amount of the health promotion information in the waiting area can be improved

**Table 4. Registration Services in the Clinics (n=25)**

<b>Registration Services in the Clinics (n=25)</b>				
<b>Components</b>	<b>Pochanpur</b>	<b>Ajay Park</b>	<b>Sahyog Vihar</b>	<b>Dabri Extension</b>
Registration Staff is friendly and helpful to you	25	25	25	25
Waiting time at the registration counter	25	13	2	22
Registration staff has good communication skill	25	25	23	25

**Table 4. reflects the registration services of each Mohalla Clinic**

1. All the patients visiting the Pochanpur, Ajay Park, Sahyog Vihar and Dabri extension found the registration staff to be friendly and helpful to them
2. All the patients at Pochanpur, Ajay Park and Dabri extension found the registration staff with good communication skills while 2 out of 25 patients at Sahyog Vihar said the communication skills of registration staff can be improved
3. The waiting time at Pochanpur and Dabri extension was less as compared to the Ajay Park. The patients at Sahyog Vihar were unsatisfied with the waiting time required at the registration counter.

**Table 5: Doctor services in the Clinic**

<b>Doctors Services in the Clinic (n=25)</b>				
<b>Components</b>	<b>Pochanpur</b>	<b>Ajay Park</b>	<b>Sahyog Vihar</b>	<b>Dabri Extension</b>
Physician's responsiveness to the question	25	21	25	25
Courtesy and respect you were given	25	21	25	25
Ability to diagnose the problems	24	18	25	25
Explanation of test, procedures and treatment	25	16	25	25
Satisfaction with the examination	24	17	25	25

received				
Aftercare instructions	24	19	25	25

**Table 5.** shows the services provided by the doctors at the respective Mohalla Clinics

1. It is observed that the physician's responsiveness at Pochanpur, Sahyog Vihar, Dabri extension was up to the mark while only 21 patients out of 25 at Ajay Park Clinic found the physician responsive enough towards the questions.
2. All the patients at Pochanpur, Sahyog Vihar, Dabri extension found the services excellent, physician courteous and respectful towards them.
3. 24 out of the 25 patients at Pochanpur Mohalla Clinic found the doctor competent enough to diagnose their problems, while only 18 out of 25 patients found their physician to be competent enough.
4. All the patients at Pochanpur, Sahyog Vihar, Dabri extension were properly explained about the tests, procedures as well as the treatment. While only 16 out of the 25 patients in Ajay Park were explained about the procedure and treatment.
5. Almost all the patients of Pochanpur, Sahyog Vihar, Dabri extension were satisfied with the examination received. While 17 out of 25 in Ajay Park Mohalla Clinic were satisfied with the examination services

**Table 6: Diagnostic Services**

<b>Diagnostic Services (n=25)</b>				
<b>Components</b>	<b>Pochanpur</b>	<b>Ajay Park</b>	<b>Sahyog Vihar</b>	<b>Dabri Extension</b>
People collecting samples/ doing procedures are friendly and helpful to you	20	21	25	22
Availability of investigation in time	16	22	23	22
Availability of lab investigation facilities within the Clinic	16	21	21	23
Tests results received on time as told to you	16	22	24	22

**Table 6** reflects the diagnostic services of the respective Mohalla Clinics

1. 25 patients considered the sample/procedures of Sahyog Vihar as friendly and helpful followed by Dabri extension (22), Ajay Park (21) and Pochanpur (20)

2. 23 patients of Sahyog Vihar received investigation report on time followed by Dabri extn (22), Ajay Park (22), Pochanpur (16)
3. 23 patients of Dabri extn said that the lab investigation facility available followed by Sahyog Vihar (21), Ajay Park (21), Pochanpur (16)
4. 24 patients of Sahyog Vihar received test results on time followed by Dabri extn (22) Ajay Park (22) Pochanpur (16)

**Table 7: Pharmacy services**

<b>Pharmacy Service( n=25)</b>				
<b>Components</b>	<b>Pochanpur</b>	<b>Ajay Park</b>	<b>Sahyog Vihar</b>	<b>Dabri Extension</b>
Availability of prescribed drugs at the Clinic	24	24	25	25
Promptness at the medicine distribution counter	24	20	25	25
Pharmacist explained about the treatment clearly	NA	NA	NA	NA
Pharmacist is friendly & helpful to you	NA	NA	NA	NA

1. 25 patients of Sahyog Vihar and Dabri extn said that the prescribed drugs are available at the Clinic followed by Pochanpur (24), Ajay Park (24)
2. 25 patients of Sahyog Vihar and Dabri extn said that the medicine distribution counter is prompt at dispensing medicines followed by Pochanpur (24), Ajay Park (20)
3. No pharmacist available at any of the four Mohalla Clinics

**Table 8: Quality of services in the Clinic**

<b>Quality of Services in the Clinic ( n=25)</b>				
<b>Components</b>	<b>Pochanpur</b>	<b>Ajay Park</b>	<b>Sahyog Vihar</b>	<b>Dabri Extension</b>
You will recommend the services to your friends	25	24	22	25
In future if you feel unwell will you return to this Clinic	25	24	22	25

**Table 8** Reflects the quality of services at these respective Clinics

1. 25 patients of Pochanpur and Dabri extension said that they will recommend the services to their friends followed by Ajay Park (24) and Sahyog Vihar (22)
2. 25 patients of Pochanpur and Dabri extension said that if they feel unwell they would return to the Clinic in future followed by Ajay Park (24), Sahyog Vihar (22).

## **Conclusion**

This research started with an objective to assess the level of satisfaction amongst the patients visiting Mohalla Clinic. It has been found that these Mohalla Clinics were aimed to increase the geographical access to healthcare services, reduce the travel and waiting time at the health facilities.

1. It is a very good concept was the general response as the Mohall Clinics have been conceptualized to reduce the burden of secondary and tertiary level hospitals and make primary health care accessible. The provision of free medicines and tests would reduce the healthcare expenditure of the poor patients. Each Mohalla Clinic is linked to a Government Dispensary for logistics support and referral of patient services for example the Clinic at

Pochanpur is linked with DGHC Bamnauli, the Clinic at Najafgarh (Ajay Park) is linked with DGHC Nangli Sakrawati, the Clinic at Sahyog Vihar is linked with DGHC Dwarka sector 10 and the Clinic at Dabri Extension is linked with DGHC Dwarka sector 2. The Clinics are authorized a list of 110 medicines and 200 tests. The staffing of the Clinics are supposed to be comprising of one doctor, one nurse, one pharmacist, and one lab technician. The concept of Mohalla Clinics has hit hard on the Quack industry.

2. The staff in the Clinics that are in rented accommodation are not as per what was envisaged, the Clinics are being run with a private doctor, an ANM attached from the linked dispensary, a Lab tech and a MTW (multitask worker). However the staff at the Clinics in Pota Cabins are all government employees. The Clinics should be adequately staffed to deliver. At some Clinics the ANM is being utilized as a pharmacist to distribute medicine which does not form part of her duties. The Clinics that don't have contractual doctors is being managed by doctors from the linked dispensary on rotational basis.
3. The Contracted doctors get Rs 30 per patient the lab tech gets Rs 8 and MTW gets Rs 2. However the government staff that is attached to the Clinic only gets the salary. There should be some extra motivation for the government doctors.
4. The timings of the Mohalla Clinic is from 0900h to 1300h. It was observed that maximum daily wage workers leave by that time hence if the Clinics are also open for some time in the evening it would be able to cater to this population.
5. From the point of medicines there was satisfaction however if the approved list could be enhanced to include a few more medicines it would have a beneficial impact for the patients. They would not be referred to the dispensary for medicines which has an approved list of 450.
6. The list of tests seems adequate for the Mohalla Clinic. However it was brought out that though the tests for Typhoid, Malaria and Dengue are there in the approved list of tests

they require a longer incubation period example Dengue serology requires 5 days of fever as compared to Dengue NSI which requires only 24 hrs of fever, Malaria Parasite requires 3 days of fever as compared to Malaria Card which req 24 hrs of fever likewise Typhi dot is a better than widal test for typhoid. If these were added it would benefit the patients.

In spite of being a great initiative in the field of primary health care if a little more emphasis on selection of location and the rented accommodation in which the Clinics have been opened had been taken it would have added greatly on the quality of service. Addition of basic emergency facilities like Oxygen cylinder facility to give saline basic dressing facility will really add to the quality of service being provided by these Clinics.

## **Annexure**

### **OPD PATIENT SATISFACTION SURVEY QUESTIONNAIRE**

You have spent your valuable time in the clinic regarding your treatment or that of your relative /Friend. You are requested to give your suggestions with regard to the services/ facilities provided in the Clinic at the time of exit. Kindly mark (✓) against the option that most closely approximates your experience .The information provided by you would be kept confidential and would only be used for improving the services of the clinic.

#### **Section A:**

Title Identification:

- 1) **Name of Respondent:**
  
- 2) **Name of Clinic:**
  
- 3) **Name of Doctor:**
  
- 4) **Date of Interview:**

### Section B:

Socio-Demographic factors. Please Tick “√” in the box that best describes you.

- 1) **Gender:** ( a ) Male ( ) ( b ) Female ( )
- 2) **Religion:**
- 3) **Caste**  
**Caste Group:** (a) Gen (b) OBC (c) SC/ST
- 4) **Age:**
- 5) **Marital Status:** ( a ) Married ( ) ( b ) Single ( )  
(c) Divorcee ( ) (d) Widow/Widower ( )  
(e) Separated ( )
- 6) **Occupation:**
- 7) **Education:** How many years of schooling have you completed.
- 8) **Monthly Household income:**
- 9) **No of children:**
- 10) **Distance travelled:** (a) < 1 Km ( ) (b) 1 to 2 Km ( ) (c) 2to3 Km ( )  
(d) 3 to 4 Km ( ) (e) > 4 Km ( )
- 11) **Mode of transport used:** (a) Two Wheeler ( ) (b) Four Wheeler ( )  
(c) Public transport ( ) (d) Walk ( )  
(e) / Private Transport ( ) (f) Other Please Specify ....
- 12) **Type of visit-** (1) first visit ( ) (2) follow up ( )
- 13) **Purpose of visit:**

- 14) **During the last six months how many times you/your family has availed the facilities of the clinic:**

**Section C:**

This section is seeking your opinion regarding **Physical Facilities in clinic**. For each statement, please indicate to which extent you feel it is satisfied or dissatisfied. Please Tick “√” on one answer.

	<u>Highly satisfied</u>	<u>Satisfied</u>	<u>Neutral</u>	<u>Dissatisfied</u>	<u>Highly dissatisfied</u>
Waiting area is clean.					
Waiting area has enough sitting arrangement.					
Amenities in waiting area (Chairs, Fan and drinking water )					
Availability of health promotion information in waiting area.					
Availability of toilet in clinic.					
Availability of complaint /Suggestions Box					
Your overall level of satisfaction during the visit to the Clinic.					
Cleanliness status of Clinic surroundings					

**Section D:**

This section is seeking your opinion regarding **Registration Service in clinic**. For each statement, please indicate to which extent you feel it is satisfied or dissatisfied. Please Tick “√” on one answer.

	<u>Highly satisfied</u>	<u>Satisfied</u>	<u>Neutral</u>	<u>Dissatisfied</u>	<u>Highly dissatisfied</u>
Registration staff is friendly & helpful to you.					
Waiting time at the registration counter.					
Registration staff has good					

communication skill.					
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**Section E:**

This section is seeking your opinion regarding **Doctor Service in clinic**. For each statement, please indicate to which extent you feel it is satisfied or dissatisfied. Please Tick “√” on one answer.

	<u>Highly satisfied</u>	<u>Satisfied</u>	<u>Neutral</u>	<u>Dissatisfied</u>	<u>Highly satisfied</u>
Physician’s responsiveness to the questions.					
Courtesy and respect you were given-friendliness /kindness					
Ability to diagnose problems.					
Explanation of tests, procedures and treatment					
You are satisfied with the examination you received					
Aftercare instructions					

**Section F:**

This section is seeking your opinion regarding **Diagnostic Service in clinic**. For each statement, please indicate to which extent you feel it is satisfied or dissatisfied. Please Tick “√” on one answer.

	<u>Highly satisfied</u>	<u>Satisfied</u>	<u>Neutral</u>	<u>Dissatisfied</u>	<u>Highly dissatisfied</u>
People collecting samples /doing procedures are friendly & helpful to you.					
Availability of investigations in time					

Availability of lab investigation facilities within the Clinic					
Tests results received on time as told to you.					

**Section G:**

This section is seeking your opinion regarding **Pharmacy Service in clinic**. For each statement, please indicate to which extent you feel it is satisfied or dissatisfied. Please Tick “√” on one answer.

	<u>Highly satisfied</u>	<u>Satisfied</u>	<u>Neutral</u>	<u>Dissatisfied</u>	<u>Highly dissatisfied</u>
Availability of prescribed drugs at the clinic.					
Promptness at medicine distribution counter					
Pharmacist explained about the treatment clearly.					
Pharmacist is friendly & helpful to you					

**Section H:**

This section is seeking your opinion regarding **Quality of Service in clinic**. For each statement, please indicate to which extent you feel it is satisfied or dissatisfied. Please Tick “√” on one answer.

	<u>Highly satisfied</u>	<u>Satisfied</u>	<u>Neutral</u>	<u>Dissatisfied</u>	<u>Highly dissatisfied</u>
You would recommend the services of this clinic to your friends/relatives.					
In future, if you feel unwell, you will return to this clinic for services.					

**Section I:**

This section is seeking your opinion regarding **Quality of Referral Service in clinic**. For each statement, please indicate to which extent you feel it is satisfied or dissatisfied. Please Tick “√” on one answer.

	<u>Highly satisfied</u>	<u>Satisfied</u>	<u>Neutral</u>	<u>Dissatisfied</u>	<u>Highly dissatisfied</u>
Has the doctor referred you to any outside clinic?					
In future, if you feel unwell, you will return to this clinic for services.					

Are you satisfied with the referral services of clinic?

What improvement would you like to see in the clinic?

## References

1. Indian Public Health Standards (IPHS) Guidelines for Sub Centers Revised 2012.
2. Indian Public Health Standards (IPHS) Guidelines for Primary Health Centers Revised 2012
3. Indian Public Health Standards (IPHS) Guidelines for Community health centers, Revised 2012.
4. Quality assurance manual implementing public health standards in Primary Urban Health Centers (book-2).
5. Public Health Standards for Primary Urban Health Centers (book-1).