

# Statistical Analysis of Healthcare Services at Mohalla Clinics of National Capital Territory, Delhi, India

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## ABSTRACT

The government of the National Capital Territory of Delhi launched the ambitious Mohalla clinics project to address the healthcare needs of this transient population. Delhi, the capital of India, is overcrowded due to the rapid migration of people from different parts of the country seeking better employment and education opportunities, which has resulted in the development of slums. These people suffer greatly due to a lack of proper documentation, awareness, and other major factors. To investigate the various healthcare services offered at Mohalla clinics and their accessibility, as well as to learn about the public's opinions regarding how the clinics are run. Here, a household survey with 225 household heads that had used these clinics services was conducted at three Mohalla clinics per district, for a total of 15 Mohalla clinics from Delhi's five districts. This was done as part of a cross-sectional mixed method study. When it comes to the many healthcare treatments offered at these clinics, people have generally responded positively. The Mohalla Clinics have been effective in meeting the healthcare needs of the community, but there are still certain areas that need improvement, such as the infrastructure, drug supply, proper laboratory investigations, water supply, toilet sanitation, general management system, etc.

**Keywords:** Universal Health Coverage, Drug Supply, Infrastructure, Slum residents, Migration

## INTRODUCTION

National Capital Territory Delhi is a capital of India, with a population of 3.38 crore in 2024 with 97.5% of population living in urban area, 1483 km<sup>2</sup> geographical area, and population density of 29,259.12 people per square mile, which is one of the highest in the world. It has nearly 20 lakh (2.0 million) or 16.9% population living in slums and a large proportion of this population is migrants from various parts of country. Delhi is the most populous urban agglomeration in India and the 3rd largest urban area in the world. The health services in Delhi are provided by 12 different agencies (if three municipal corporations are counted separately then the number would be 14). The number of health facilities available in Delhi varies depending on sources. As on March 31, 2014, there were 95 hospitals, 1389 dispensaries, 267 maternity homes and sub-centers, 19 polyclinics, 973 nursing homes, and 27 special clinics in Delhi. In addition, 15 government medical colleges in allopathic system of medicine run in Delhi also. The Government of Delhi owns nearly one-fourth to one-fifth of all health facilities with nearly 10,000 hospital beds, over 200 dispensaries and polyclinics, among many others. The health facilities run by the Government of Delhi examine around 3.35 crore (33.5 million) outpatients and treat nearly 6 lac (600,000) hospitalized patients, every year. There is high density of private providers and large private hospitals and small clinics in the city-state. Per capita government health expenditure in Delhi state was INR 1,420 in 2012-13 while the average for the major states India in that year was INR 737 per capita. Much of the remaining health expenditure is out of the pockets of the people. Nearly 55% of hospital care in urban areas (national average: 68%) is from private sector. In addition, 87% of males and 71% of females in Delhi attended private providers for their outpatient (national average 76% and 73%, respectively).

## Objectives

Objectives of current study were to explore the availability and accessibility of the various healthcare services provided at Mohalla clinics by the people residing in Delhi slums and to know about the perceptions of the people and the key-informants (community health workers and medical officer) about the functioning of Mohalla clinics and how successful do they cater to the healthcare needs of the people residing in Delhi slums.

## Methods

Current study is mixed method in nature and both qualitative as well as quantitative data collection methods have been used. The data collection of the study was done between 1 April, 2024 to 30 May, 2024 in Delhi, India. 15 Mohalla clinics were selected by using simple random sampling from five districts of Delhi-north, south, east, west and central and three Mohalla clinics were selected from each district. From every Mohalla, 15 households were selected by purposive sampling where only those households were included who have utilized the healthcare services from Mohalla clinic at-least in the past one month. So, a total of 225 household heads were selected and interviewed. For this part, one key informant in the form of medical officer or community health worker were selected from each Mohalla clinic via purposive sampling and interviewed. So a total of 15 key informant interviews were also taken.

## Data collection tools and data analysis

Quantitative: a semi-structured interview schedule used for interviewing the household heads.

Qualitative: a key informant interview schedule was used for the purpose of data collection. It consisted of all open-ended questions. The qualitative data was entered in MS word and was manually processed. The quantitative data was processed using SPSS.

## Results: - Treatment seeking behavior of slum residents

Awareness about Mohalla clinics: During the study, it was observed that all the slum dwellers were aware about the existence of Mohalla clinics. Utilization pattern: majority of the households (63.1%) visited Mohalla clinics for seeking healthcare services within last seven days of taking the interview. 35.1% respondents had visited Mohalla clinic within 7-14 days of giving the interview and the remaining (1.8%) had visited the clinic last time 15-30 days before giving the interview. The frequency of visiting Mohalla clinics was mostly more than twice a month (61.7%) by the members of the households, followed by twice a month visit to Mohalla clinic (18.7%) by those seeking healthcare treatment for any disease.

**Table 1:** Awareness about Mohalla clinics amongst slum residents of Delhi

Type of services provided at Mohalla clinic	Number	%
Diagnosis of illness	217	96.4
First aid	46	20.4
Immunization services	21	9.3
ANC and PNC checkup	22	9.8
Treatment of illness	100	

Majority of the household heads visited Mohalla clinics for seeking treatment for their own illness (66.2%) whereas 33.8% visited Mohalla clinics for seeking treatment for others like; their family members, friends or relatives. 100% of the patients reached the clinic by walking from their home, with an average time to reach being 5 min for 85.3% of patients.

**Table 2:** Utilization pattern of services at Mohalla clinics amongst slum residents of Delhi (n=225)

Parameters	Yes	No	No	
	Number		(%)	Number
<b>Utilization pattern of services at Mohalla clinic</b>				
Was the disease diagnosed at Mohalla clinic	220	97.8	5	2.2
Doctor at Mohalla clinic guide you about your illness	190	84.4	35	15.6
Any difficulties faced while availing treatment at Mohalla clinic	43	19.1	182	80.9
Any other institute (other than Mohalla clinic) where you are seeking treatment	26	11.6	199	88.4
Prefer lab facilities at Mohalla clinic over private lab facilities	218	96.9	7	3.1
Prefer Mohalla clinic for emergency health problems	0		100	
<b>Motivating factor to seek healthcare at Mohalla clinic</b>				
Proximity from the residence	219	97.3	6	2.7
Referred by a friend/relative	17	7.5	208	92.5
Positive experience from the past	52	23.1	173	76.9

Free treatment services	198	88.0	27	12
Advertisement/hoardings/ pamphlets	23	10.2	202	89.8

The average waiting time to avail services was 0-30 min (75.1%), 31-60 min (9.8%) and more than 1 hour (16%). The difficulties faced while seeking treatment at Mohalla clinic by the slum residents of Delhi were too long waiting time (67.4%), non availability of drugs (6.98%) and improper infrastructure (25.6%).

**Table 3:** Prevalence of Acute disease amongst slum residents of Delhi.

Morbidity pattern for acute disease	No	%	Yes	%
Suffered from any disease in the past 15 days	727	78.9	195	20.1
Type of acute ailment			N	%
Upper respiratory tract infection			66	33.8
Gastro-intestinal tract infection			27	13.8
Skin infection			46	23.6
Fever			48	24.6
Urinary tract infection			5	2.6
Chickenpox			3	1.6
Total			195	100

**Table 4:** Prevalence of chronic disease amongst slum residents of Delhi.

Morbidity pattern for chronic disease	No	%	Yes	%
Suffered from any disease in the past 1 year	774	83.9	148	16.1
Type of acute ailment			N	%
Diabetes			50	33.8
Hypertension			56	37.8
Gall stone			6	4.05
Arthritis			15	10.1
Thyroid			25	16.9
Migraine			3	2.0
Epilepsy			1	0.7
Total			148	

Maternal healthcare: Mohalla clinics will provide preventive services in the form of ANC and PNC care for females (as per the guidelines of government of NCT of Delhi), but however during the study it was found that not even a single household was aware of the fact that maternal services are being provided at Mohalla clinics, that led to the poor utilization of these services. Morbidity pattern and treatment seeking behavior; the understanding of the type of morbidity pattern is an important factor to understand holistically the treatment seeking behavior of any population. The various healthcare facilities visited in order to seek healthcare services were-majority of the patients (97.5%) visited Mohalla clinics for seeking treatment for their acute disease followed by 2% who visited a private clinic for seeking treatment for acute disease and 0.5% who went to government hospital for seeking healthcare treatment. Majority of the patients did not bear any cost on consultation (97.9%), investigation (98.9%), drugs (98.9%) & transportation (99.5%). Out of the various healthcare facilities visited in order to seek healthcare services -majority of the patients (85.8%) visited Mohalla clinics for seeking treatment for their chronic disease followed by 9.4% who visited a private clinic for seeking treatment for chronic disease and 4.8% who went to government hospital for seeking the healthcare treatment.

**Table 5:** Cost of availing treatment by slum residents of Delhi

Parameters	Number	%
Consultation fee for seeking treatment for chronic disease (Rs/month)		
50-200	2	14.3
201-350	5	35.7
351-500	3	21.4
501-650	2	14.3
651-800	2	14.3
Investigation cost for seeking treatment for chronic disease (Rs/month)		
50-150	5	35.8

151-250	4	28.6
251-350	2	14.3
351-450	1	7.1
451-600	1	7.1
>600	1	7.1
Medicinal cost for seeking treatment for chronic disease (Rs/month)		
50-250	3	21.4
251-500	3	21.4
501-750	4	28.6
751-1000	1	7.1
>1000	3	31.5
Total (N=14)	100	
Transportation cost for seeking treatment for chronic disease (Rs/month)		
10-50	4	57.1
51-90	1	14.3
91-130	2	28.6
>130	0	0
Total (N=7)	100	

### Perception of the respondents regarding Mohalla clinics

The views and perceptions of the household respondents have been quantified and analyzed to frame a picture of the functioning of Mohalla clinics at present in the eyes of the slum dwellers utilizing the services from these clinics. Perception of people plays a very crucial role in utilization of the various healthcare services that are provided at any healthcare facility.

### Perception of the Medical officers regarding Mohalla clinics

The knowledge regarding the views and perceptions of the providers is extremely important to know of how efficiently the facility is working in terms of the delivery of healthcare services.

**Table 6:** Perception of slum residents regarding Mohalla clinic (n=225)

Perception of slum residents regarding Mohalla clinic	Yes	(%)	No	(%)
Healthcare services provided at other clinics are better than Mohalla clinics	44	19.6	181	80.4
Attitude and Sincerity of Doctor is satisfactory	199	88.4	26	11.6
Sitting arrangement at the clinic is satisfactory or not	156	69.3	69	30.7
Drug supply is prompt at Mohalla clinics	202	89.8	23	10.2
Satisfaction with the quality of drugs supplied at Mohalla clinics	211	93.8	14	6.2
Visit Mohalla clinic if it is shifted to a far off place from the residence	3	1.3	222	98.7
Prefer Mohalla clinic in the future for seeking healthcare	200	88.9	25	11.1
Recommend Mohalla clinic to others	194	86.2	31	13.8

### Utilization of healthcare services provided by Mohalla clinics

During the study, it was found that most of the medical officers said that though Mohalla clinic is a newer concept but its popularity has been breakthrough in such a short period of time. "Mohalla clinics have proved out to be very effective in the provision of healthcare services specially to the people of lower socio-economic status, however many services still remain under-utilized like laboratory services, first aid services and radiological services" (A 35 years old, male medical officer, Mohalla clinic). The various factors that affect the utilization of services being provide by any healthcare facility are- cost of availing the treatment, proximity of the healthcare facility from the residence, reputation of the doctor serving at these clinics, the list of healthcare services being provided, behaviour of the staff, waiting time at the healthcare facility and cost of seeking the treatment.

**Table 7:** Perception of slum residents regarding Mohalla clinic.

Parameters	Number	%
<b>Positive aspects of mohalla clinic compared to other healthcare facilities.</b>		
Free treatment	4	1.8
Proximity from the residence	225	100
Waiting time is less	89	39.5
Doctor is sincere and has a positive attitude	187	83.1
<b>Suggestions to improve services provided by mohalla clinic</b>		
Infrastructure to be improved	45	20
Waiting time should be reduced	39	17.3
Staff behavior should be modified	54	24
Doctor should be more regular and guide properly	38	16.9
Public convenience should be available	50	22.2
First aid facilities should be available	98	43.6
Medicine supply should be prompt	5	2.2
Investigations should be done properly and on time delivery of reports	68	30.2
Timings should be increased upto 4pm	52	23.1
<b>Scoring of mohalla clinic by the household respondents</b>		
Very poor-1	0	0
Poor-2	6	2.7
Average-3	50	22.2
Good-4	19	8.4
Very good-5	150	66.7

I don't feel that these clinics are sufficient to cater to the healthcare needs of the community as lack of diagnostic facilities and manpower shortage is a big problem, sometimes I have to do the work of both doctor as well as the pharmacist. (A 35 years old male medical officer, Mohalla clinic) "Health education during schooling can act as a significant step towards improving the behavior of the community with respect to the various healthcare problems and so modifying the public health in a positive way". (A 25 years old male medical officer, Mohalla clinic) Challenges and difficulties faced by doctors working at Mohalla clinics. During the study it was found that the challenges faced by the doctors working at Mohalla clinics are workplace challenges in the form of drug supply. "There is problem with respect to shortage of drugs at Mohalla clinics specially those of thyroid, skin diseases due to which certain patients have stopped visiting" (A 36 years old female medical officer, Mohalla clinic).

#### **Poor infrastructure**

The washroom is a major challenge, the hygiene is not maintained and water supply is a major issue, as a result I tend to avoid using the washrooms". (A 36 years old female medical officer, Mohalla clinic) Water shortage is a major problem, there has been no water supply since a month and we are buying it here on our own but we are not paid for it". (A 25 years old male Medical officer, Mohalla clinic) Along with this, the vending machine for dispensing medicines was available at only one Mohalla clinic and other Mohalla clinics were having no vending machines, also the electronic tablets for entering the patient details was not available at certain clinics.

#### **Staff shortage**

Only a handful of doctors were satisfied with the present staff in their facility. "The pharmacist is not appointed and the helper is on leave for some days, I have to work as a doctor as well as dispense the medicines". (A 32 years old male medical officer, Mohalla clinic)

#### **Security issues**

This was a problem at almost all the Mohalla clinics where the lack of security posed to be a huge challenge for the doctors. "One day when I came to Mohalla clinic the glass door was broken; TV and my sphygmomanometer were stolen". (A 25 years old male medical officer, Mohalla clinic) "Lack of Security is a great challenge for us; sometimes the patients quarrel with us and it gets difficult to control them without adequate security in place". (A 38 years old female medical officer, Mohalla clinic)

**Perception of community workers regarding Mohalla clinics**

Satisfaction regarding Mohalla clinics: It was found during the course of the study that all the community health workers were highly satisfied with the way the clinic is functioning at present. "The Mohalla clinics have opened new doors for the community members to seek treatment for the basic services for which initially they had to travel to the far off healthcare facilities and the services provided here are at par with the services provided at the dispensary before". (A 34 years old female ANM worker, Mohalla clinic)

**Attitude among the community members regarding Mohalla clinics**

During the study the community health workers were also asked about the attitude of the community towards the Mohalla clinics and it was found that all the community health workers gave a positive response with respect to the functioning of these clinics. I've been working here since the clinic opened. The utilization of the services provided at Mohalla clinics has improved to a great extent, huge chunk of people come to seek healthcare services here and till date all of them are highly satisfied with the services".

**Challenges faced by the community health workers**

Drug supply; the commonest response was drug shortage. Most common was the slow supply from backend. "ANC services, drugs as well as immunization services are not currently provided here, if it is done then it will help to improve the healthcare overall delivery system at Mohalla clinics". (45 years old female ANM worker, Mohalla clinic)

**Security issues**

The flat LED television installed at the facility was stolen and it is difficult for us to work here and keep a track of everything especially when the patient load is high without any security at place. (A 29 years old female ANM worker, Mohalla clinic)

**DISCUSSION**

A study on the accessibility and spatial coverage of the population by a PHC showed that the healthcare facility covered only 26.6% of the total population which is very much less as compared to Mohalla clinic that covers all the population in its catchment area & these clinics examined 1.5 million patients by the end of 2016, means less than an year of beginning of these healthcare facilities. Another study reported that 9.9% of the respondents reported unmet healthcare needs due to lack of money as well as time which is not the case with Mohalla clinics as they provide doorstep services to the population. Too much time at particular healthcare facility tends to stop people from utilizing the various healthcare services provided by any healthcare facility. In a study conducted on the morbidity and the utilization of the healthcare services among the urban poor of Delhi and Chennai it was found that 40.2% and 20.5% of the poor population did not access the medical healthcare services due to financial constraints and 11% and 6% of the population did not access the healthcare services being provided due to long waiting time. In our study it was found that 88.4% of the patients were satisfied with the sincerity and the attitude of the doctor which was similar in the study conducted at Burkina Faso. In a previous study conducted on Mohalla clinics, it was found that the patients were satisfied with the kind of services being provided at these clinics & it was found that the various suggestions given by the patients and staff included -better infrastructure, prompt supply of drugs, weekly specialized services, the problem of drug supply being interrupted, poor infrastructure including no supply of electricity and water and services like ANC and PNC care, immunization to be started at the various other Mohalla clinics too which are also found in the current study which was also found in this study. The implementation component of the various national health programme was not available at Mohalla clinics.<sup>11</sup> Out of the 212 tests that are shown to be available at Mohalla clinics approximately 50 tests are not done, poor infrastructure with no proper waiting area, lack of adequate human resources at Mohalla clinics & overcrowding of patients based on the location of the Mohalla clinics results in lack of quality time spent by each doctor, it was found that the doctor was able to give only 1 minute or less to a patient, in a case study where six Mohalla clinics were compared it was found that disparity exists within the Mohalla clinics with respect to the delivery of various healthcare services.

**Limitations**

Limitations for current study were; due to issues related to the permissions from the Government and constraints of time only 15 Mohalla clinics could be selected for data collection. Some doctors cannot be interviewed due to lack of permission & due to the nature of the topic, some doctors and some community

health workers were afraid to speak up, they feared if they spoke something against the Government and it might get published, affecting the quality of data in some interviews.

## CONCLUSION

Mohalla clinics have gained popularity by working really well in the delivery of the healthcare services, certain areas of improvement found need to be addressed. Community outreach activities should be conducted at these clinics to improve the health promotion and health seeking behavior of those in the catchment area. The major positive elements of these neighborhood clinics are close proximity & less waiting time for seeking the healthcare services compared to that of the other healthcare facilities. Hence, it is imperative to address the various gaps requiring interventions to achieve universal health coverage across Nation.

## REFERENCES

- [1] Banerjee A, Bhawalkar JS, Jadhav SL, Rathod H, Khedkar DT. Access to health services among slum dwellers in an industrial township and surrounding rural areas: a rapid epidemiological assessment. *J Family Med Prim Care*. 2012; 1(1):20-6.
- [2] Gwatkin, Dr. Overcoming the inverse care law: Designing health care programs to serve disadvantaged population groups in developing countries. Available at: [http://siteresources.worldbank.org/INTPAH/Resources/Publications/Recentpapers/8972\\_Bellagio\\_Intro\\_Paper\\_gwakin](http://siteresources.worldbank.org/INTPAH/Resources/Publications/Recentpapers/8972_Bellagio_Intro_Paper_gwakin).
- [3] Gwatkin Dr, Rustein S, Johnson K, Pande RP, Wagstaff A. Health, Population and Nutrition Group; 2000. Socio-economic differences in health nutrition and population. Available at: <http://documents.worldbank.org/curated/en/962091468332070548/Socio-economic-differences-in-health-nutrition-and-population-within-developing-countries-an-overview>.
- [4] Munoz U, Kallestal C. Geographical accessibility and spatial coverage modeling of the primary health care network in the Western Province of Rwanda. *Int J Health Geograph*. 2012;2:45-9.
- [5] Sharma DC. Delhi looks to expand community clinic initiative. *Lancet*. 2016; 388(10062):2855.
- [6] Pappa E, Kontodimopoulos N, Papadopoulos A, Tountas Y, Niakas D. Investigating unmet health needs in primary health care services in a representative sample of the Greek population. *Int J Environ Res Public Health*. 2013;10(5):2017-27.
- [7] Ray S, Basu S, Basu A. An assessment of rural health care delivery system in some areas of West Bengal. *Indian J Public Health*. 2011;55:(2):45-9.
- [8] Sundar R, Sharma A. Morbidity and utilization of healthcare services a survey of urban poor in Delhi and Chennai. *Econ Political Weekly*. 2011; 37:47.
- [9] Baltussen RM, Yé Y, Haddad S, Sauerborn RS. Perceived quality of care of primary health care services in Burkina Faso. *Health Policy Plan*. 2002;7(1):42-8.
- [10] Komal R, Rai P. Healthcare infrastructure a study of Mohalla clinics. *Int J Res Econ Social Sci*. 2017; 7:133-5.
- [11] Anand S, Dwivedi R. New dimensions in Primary Health Care Services: A Study of Neighborhood Health Clinics (Mohalla clinics) of Delhi. *J Public Health*. 2011; 34:78-82.
- [12] Oladipo JA. Utilization of health care services in rural and urban areas: a determinant factor in planning and managing health care delivery systems. 2014.
- [13] Lahariya C. Mohalla Clinics of Delhi, India: Could these become platform to strengthen primary healthcare?. *J. Family Med Prim Care*. 2017; 6(1):1- 10.