



## Spatial and Temporal Analysis of Development of Health Facilities in Narayanpur Block of District Mirzapur

**Sachchidanand Maurya\***

Research Scholar, Department of Geography, Rani Durgavati University, Jabalpur, Madhya Pradesh, India

\***Corresponding Author:** Sachchidanand Maurya, Research Scholar, Department of Geography, Rani Durgavati University, Jabalpur, Madhya Pradesh, India

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### Abstract

Relation between a well-developed health system and healthy life is positively correlated to each other. Implementation of state and centre led health policies may prove its utility, if the mass population get proper treatment at the right time. The present study is an attempt to explore the ground reality of health service delivery in Narayanpur development block of Mirzapur district. For the said purpose descriptive research design has been opted to conduct the entire work. Apart from it, both primary and secondary data have been incorporated to authenticate current work. Results suggest that the study area is gaining medical facilities, but that is not adequate and satisfactory. So, efforts at every level are needed for a better healthcare system.

**Keywords:** Correlated; Descriptive Research Design; Primary Data; Secondary Data

### Introduction

Physical fitness or being fit in our day-to-day life or the era of the COVID-19 pandemic is essential for our existence. Good health and a healthy lifestyle can mitigate several diseases and chronic health issues. Taking care of health is as important as to breathe because a population with good health is considered a boon for any country. Human health is affected by various circumstances i.e., nutrition, food habits, housing condition, healthy way of living, sanitation, and hygiene, shielding from communicable diseases, and availability of healthcare facilities etc. [1]. Because of its specific purpose in treating the injured and dealing with disease outbreaks, health care facilities play a crucial role in the field of severe or less severe health issues and illness mitigation. Therefore, health care facilities are those centres that offer medical care and try to promote good health services to each of us.

Owing to the welfare approach of the Government of India, the development of the health facilities is well documented. In rural areas, the provision of good health services and medical facilities at Community Health Centres (CHCs), Primary Health Centres (PHCs) and Sub-Centres are the foremost and prime motto of the government, so that the marginalized, underprivileged, and the individuals from economically weaker sections may obtain good treatment for the improvement of their health. Exploring the avail-

ability of health facilities in an area is considered a crucial aspect to know the adequacy of health services accessible to its residents [2]. Through this paper, the researcher has tried to depict the real scenario of the health facilities development in Narayanpur block of Mirzapur district.

### Objectives

The present study carries the aim to put forward a comprehensive study of government-funded health care facility centres and their role to check diseases in the study area Narayanpur block. To meet the aim the objectives are

- To explore the health care facilities available at CHCs, PHCs, and Sub-Centres.
- To know the infrastructural improvement at the health centres.
- To determine the gap and loopholes between current public health care bodies and the Government of India's standard requirements for health care institutions.
- To offer suggestions for enriched health-care facilities that are required in the study area.

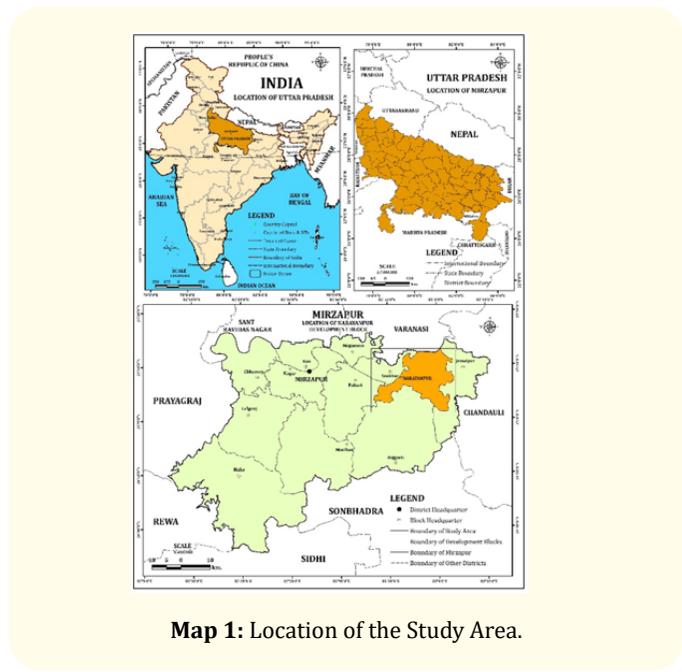
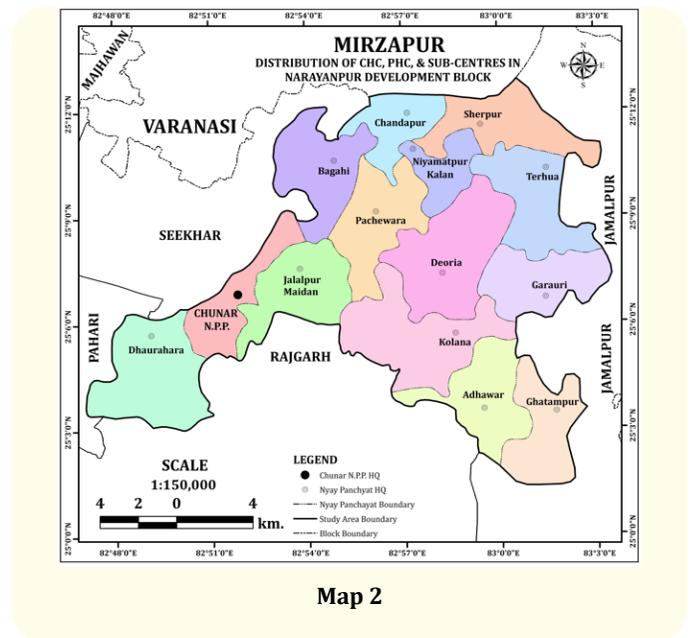
### Database and methodology

The current study embraced a Descriptive research design to conduct the entire work. Apart from it, both primary and second-

ary data have been incorporated into this research work. CHC, PHC and Sub-Centre related primary data have been compiled from mid-January to mid-March, 2022 by conducting field-survey. The registered data have been further refined and tabulated in Micro Soft Excel Worksheet. CMO Office, Mirzapur district, and District Handbook of Mirzapur are the sources of secondary data. The researcher has collected relevant information from these sources and integrated it where necessary. Map designing has been done in a GIS environment using related information.

**Study area**

Narayanpur Block of district Mirzapur is the centre of the present study, which is situated on the right bank of the river Ganga, and surrounded by the adjacent blocks Sikhar, Pahari, Rajgarh, and Jamalpur. Talking about its latitudinal and longitudinal extent, Narayanpur block is extended from 82°48' E to 83°05' E longitude, whereas it is stretched from 25°0' N to 25°14' N latitude, and the area of the selected block is 230.53 km<sup>2</sup> (Map 1). As per the 2011 census, 1,10,997 males and 1,01,563 females reside in this block (a total population of 2,12,560), and the study area consists of 213 villages, out of which 188 villages are inhabited, whereas 25 villages are uninhabited. These 213 villages are settled in 13 Nyay Panchayats of the block (Map 2).



**Map 1:** Location of the Study Area.

**Development of Health Facilities in Narayanpur Block**

The development of health and medical services, as an important social index, is traditional in the study area. Vedic medicines were prevalent in the beginning, but with the Muslim domination, Unani medicine was born. In 1801, when the British developed their rule, Western medicine began. The study area was plagued by outbreaks of various diseases and epidemics from 1850 to 1941. The population was hit by many infectious diseases like- Malaria, Smallpox, Cholera, and Kala-azar. After independence, there have been substantial changes and reforms in health-related policies.

At present, efforts are being made to organize various existing medical facilities more and to get control over the birth and death rate, the Maternal and Child Welfare Centre is also being established. Although almost all types of health facilities are increasing in the study area, the available services are very less in view of the increasing population.

According to the data the year 1951, there were 2 primary health centres, one Ayurvedic dispensary, and one Homeopathic dispensary in Narayanpur block, but Allopathic hospitals were absent at that time. Talking about the Family and Maternal Child Welfare Center, from 1951 to 2021, their number has increased from 1 to 4.

At present, there has been some increase in the number of hospitals and dispensaries with the needs of the increasing population in the study area, due to which rural areas are now getting more

benefits from the facilities of the hospital. According to the year 2021, 3 Allopathic hospitals, 7 Primary Health Centres, 6 Ayurvedic dispensaries, 3 Homeopathic dispensaries, 4 Family and Maternal Child Welfare Centers have been established in the study area.

Though medicinal facilities are increasing in the study area, it is still deprived of the surplus of medical facilities, and it is compulsory to increase the number of hospitals and dispensaries so that the entire study area can get benefits.

**Public healthcare system: structure and present scenario**

Health services available in any country are one of the foremost necessities to serve the citizens. In India, public and private health-care services exist to offer medicinal facilities. Though sophisticated and advanced level medical facilities are accessible at private health-care centres in urban areas. The Government of India has set up a three-tier public health-care system for rural areas on the basis of population norms [3] The primary tier healthcare system would have three types of healthcare institutions, namely

- Sub-centre for 3,000-5,000 persons,
- Primary Health Centres (PHCs) for 20,000 to 30,000 people
- Community Health Centres (CHC) for 1,20,000 to 80,000 population.

Centre	Threshold Population	
	Plain Areas	Hill/Tribal Areas
Sub-centre	5,000	3,000
PHC	30,000	20,000
CHC	1,20,000	80,000

**Table 1:** Threshold population for the establishment of healthcare centres.

**Source:** CMO, Mirzapur District.

Apart from it, CHC also acts as a referral centre for every four PHCs. District hospitals serve urban people as the second-tier healthcare system, while healthcare institutions with advanced and complex health facilities act as tertiary healthcare centres.

Coming to the health facilities in the study area, which is Narayanpur block of Mirzapur district. Narayanpur block is facilitated with One CHC, Seven PHCs, and 33 Sub-centres (Table -2, and Map-3). CHC, Chacheri Mod is situated in Pirallipur village, near Chunar Nagar Palika Parishad (NPP), whereas five PHCs are located at five different places in the study area, and these are Chunar town, Terhua village, Adalhat bazaar, Pachewara village, and Dharammerpur village. The above discussion signifies that only four Nyay Panchayat-

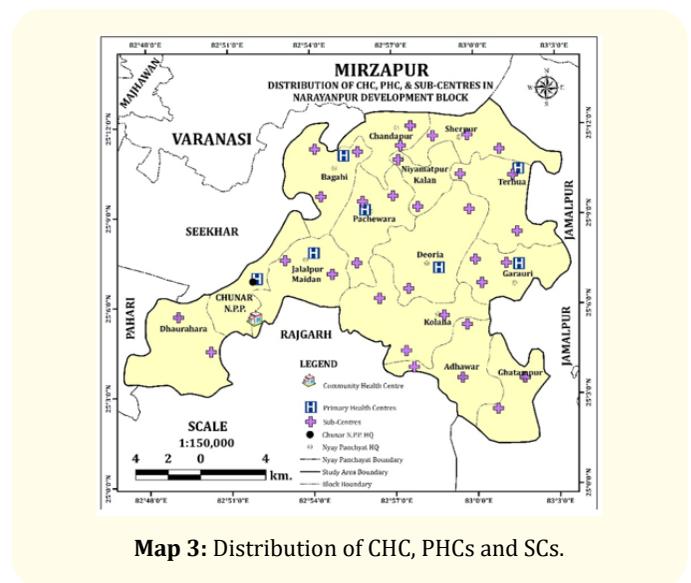
ats are equipped with PHCs, while nine out of a total13, are lacking PHCs, and the population of these nine Nyay Panchayats are dependent on other PHCs.

It is because, in some Nyay Panchayats, the total population is lesser than the required population for the establishment of PHCs. Table no. 2 portrays the allocation of Sub-centres in different Nyay Panchayat of the study area, which shows that seven Nyay Panchayat have been enabled with three Sub-centres in each, while six Nyay Panchayat are being served by two Sub-centres in every Nyay Panchayat.

Nyay Panchayat	Area (km <sup>2</sup> )	Total Population	Sub-centres
Adhwar	19.81	14,233	3
Bagahi	17.27	11,430	2
Chandapur	9.92	7,808	2
Deoria	24.49	22,614	3
Dhaurahara	22.05	8,625	2
Gauri	15.95	21,615	3
Ghatampur	14.13	13,930	2
Jalalpur Maidan	24.57	21,662	2
Kolana	23.39	15,827	3
Niyamatpur Kalan	8.39	9,182	2
Pachewara	19.42	17,589	3
Sherpur	16.87	25,848	3
Terhua	14.27	22,197	3
Narayanpur Block	230.53	2,12,560	33

**Table 2:** Distribution of Sub-centres in Various Nyay Panchayats.

**Source:** Census, 2011 and District Handbook.



**Map 3:** Distribution of CHC, PHCs and SCs.

## Result and Discussion

An attempt has been made here to clarify the information related to health services received from the field survey and secondary sources in the study area.

### Role of and facilities at community health centres

According to Indian Public Health Standards (IPHS) Guidelines for Community Health Centres (Revised), 2012, the Community Health Centres (CHCs) constitute the secondary level of health care, and it acts as a referral as well as specialist health care to the rural population. The IPHS guidelines narrate the service delivery in CHCs which are OPD Services and IPD Services, and it includes General, Medicine, Surgery, Obstetrics and Gynaecology, Paediatrics, Dental and AYUSH services. Apart from it, Eye Specialist services (at one for every 5 CHCs), Emergency Services, Laboratory Services, and National Health Programmes are the other services that must be delivered at CHCs.

The IPHS guidelines also mention required manpower at every CHC. Five medical specialists are mandatory which include a general surgeon, physician, obstetrician/gynaecologist, anaesthetist, and paediatrician, four general duty officers, one dental surgeon (BDS), two general duty medical officers (MBBS), one medical officer-AYUSH (Graduate in AYUSH). They should be assisted by ten staff nurses, eleven paramedical (i.e., Pharmacist, Pharmacist - AYUSH, Lab. Technician etc.), thirteen other staff, six Administrative Staff and the same number of Group D Staff [4].

Now depiction of the ground reality of the CHC of the study area. On the day of the field survey, CHC of Narayanpur block was equipped with five medical specialists (paediatrician, physician, anesthesiologist, (one of each) two obstetricians/ gynaecologists), eight staff nurses and thirty-two paramedical (twenty-six RTI/STI specialist, one lab technician, one pharmacist, four female health workers/ANM), and fifteen other staffs. On the day of the field visit, the dental surgeon, medical officer-AYUSH and general duty doctor's posts were not fulfilled. Besides it, a lack of staff nurses was also observed by the researcher. As it has been constituted that a CHC will attend to 1,20,000 people in rural areas, but in the study area it is serving the population of 2,12,560 according to the census of 2011. These all collectively obstruct the services and the performance of CHC.

Talking about the infrastructural development at CHC of Narayanpur development block. It is located in the vicinity of Chunar Nagar Palika Parishad and is well connected with the other parts of the block. Few facilities which must be taken into account are, an increase in the availability of beds, proper accommodations of blood, drinking water convenience, cleaning of washrooms, and sanitation and hygiene of the premises. These are the areas where an exercise needs to be done by a competent authority.

### Role of and facilities at primary health centres

Primary Health Centre (PHC) is the cornerstone of rural health services, and the first port of call to a qualified doctor of the public sector in rural areas for the sick and those who directly report or are referred from Sub-Centres for curative, preventive and promotive health care. PHC provides OPD services, 24 hours emergency services, referral services, and in-patient services (6 beds).

Indian Public Health Standards (IPHS) classified PHCs into two categories from a service delivery angle and depending upon the delivery caseload, it may be Type A and Type B.

- **Type A PHC:** PHC with a delivery load of less than 20 deliveries in a month,
- **Type B PHC:** PHC with a delivery load of 20 or more deliveries in a month

As per the IPHS guidelines Type A PHC will be served by two medical officers (one MBBS, and one AYUSH), and eleven other staff, whereas Type B PHC is attended by two medical officers (one MBBS, and one AYUSH), and twelve other employees.

There are seven PHCs in the study area, and exclusively Chunar PHC qualifies the criteria of Type B PHC, rest six are Type A PHC. Chunar PHC has the facility of two MBBS doctors and one AYUSH doctor (contractual), seven paramedical staff to assist the doctors and two other staffs. Chunar PHC is the epicentre of the Mother and Child Health Programme for the betterment of the health of the newborn and the motherhood observing females. Adalhat, Narayanpur, Dharammerpur, Pachewara, Terhua, and Garauri are trying to serve the rural population in their respective areas, but these PHCs are facing a lack of human resources and infrastructural inadequacy. Hence, there is a pressing need for focused and dedicated reform to continue the medical facilities.

**Role of and facilities at sub-centres**

Sub-Health Centre or Sub-centre is the most peripheral and opening of contact between the primary health care system and the community. Since rural people come into the contact with Sub-centres at the very first step of their treatment, hence the desired result and success of the nationwide programme would depend largely on the well-functioning of Sub-centres, but unfortunately performance of the Sub-centres at present is much lower than expectations.

The norms of IPHS have categorised Sub-centres into two types - Type A and Type B on the basis of the catchment area, health-seeking behaviour, caseload, and location of other facilities like PHC/CHC/FRU/Hospitals in the vicinity of the Sub-centre. Type A Sub-centre provides all recommended services except the facilities for conducting delivery. However, trained Auxiliary Nurse Mid-wives (ANMs) may conduct normal delivery in case of need. Type B Sub-centre offers each recommended service including the facility of deliveries at the Sub-centre itself. It also performs as a Maternal and Child Health (MCH) centre.

The study area Narayanpur block is facilitated with 33 Sub-centres (SCs), and these all are Type B SC. According to the national

guidelines, each SC of the study area should treat a maximum of 5,000 persons, but owing to the huge population pressure six SCs are overburdened, especially in the era of the COVID-19 pandemic, and they are compelled to offer their amenities up to the population of 15,000. Apart from it, they offer a delivery facility of skilled and trained health workers/ANMs. Other SCs (Adalhat, Bhurkura, Gangpur, Khajuraul, Kolana, Narayanpur, Pirallipur, Rupaidha, and Terhua) are observing a lack of male and female health workers/ANMs. Few of them have engaged mid-wives (Dai) to assist in delivery operations.

Speaking about infrastructural development, the progress of SCs is very miserable. During the field visit, it was observed that some SCs do not have their own building, and they were performing their duty in rented buildings. Owing to the lack of potable water, and deficiency of sufficient bed facility SCs are not able to perform as per the requirement. The condition of sanitation is beyond explanation. Deficient electricity supply and dearth of communication facilities are like a nail to the coffin. Besides all these, a shortage of staff is also a pain for SCs. All these finally hamper the performance of the sub-centres. Table-3 portrays the available and required health facilities in the study area.

Block	CHC			PHC			Sub-Centres		
	Required	Existing	Gap	Required	Existing	Gap	Required	Existing	Gap
Narayanpur	2	1	1	7	7	0	43	33	10

**Table 3**

From the above table, it is clear that the study area needs one more Community Health Centre to furnish better health services, and also needs Sub-centres with improved infrastructure to offer enhanced facilities at the first connection between people and the health care system.

**Conclusion**

India has always been a welfare state, and it continually tries to provide each of its citizens with better health services, and in that process, some rules and guidelines have been framed, which are amended time-to-time. The three-tier healthcare system in the country is an attempt by the central as well as state governments to focus more on framing the policies for improved health care. In the

study area Narayanpur block, healthcare services are increasing by and by, but that is not sufficient. Lack of infrastructural facilities, shortfall of medical, paramedical and other staff, and shortage of willpower are some hurdles that may cause huge damage at the time emergency cases, particularly COVID-19 like pandemic situations.

Hence the gap between required and existing healthcare facilities must be removed, and for this purpose, responsible authorities will have to come forward to work in a candid manner. Number CHCs, PHCs and SCs, beds, and medical persons will have to increase in proportion to the population. So that the aim of "Fit India" can be achieved.

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