



Research Article

A Medical Geographical Analysis of Inequality of Health Services in Dakshin Dinajpur District, West Bengal

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DOI: <https://doi.org/10.5281/zenodo.20665466>

Abstract

Medical Geography or Health Geography has now become a well-established and important field of geographical research. This branch of geography analyses the interrelationship among health, disease, environment, and socio-economic conditions, and plays a significant role in human welfare. The present research paper examines the spatial and regional disparities in healthcare services in the Dakshin Dinajpur district. Through an analysis of the geographical distribution of health centres, hospitals, medical facilities, doctors, nurses, maternal health, child health, and healthcare infrastructure across different blocks of the district, an attempt has been made to identify the actual condition of healthcare services in the region.

Both primary and secondary data have been used in this study. Information has been collected through field surveys, questionnaires, Census data, and reports from the National Health Mission. The study reveals that although urban areas are comparatively more developed in terms of healthcare facilities, rural and border areas still suffer from significant inadequacies in healthcare services. In rural and border regions, shortage of doctors, poor transportation and communication systems, poverty, lack of health awareness, and insufficient healthcare infrastructure continue to act as major barriers to effective healthcare delivery. The final chapter of the study provides several practical recommendations for improving the healthcare system so that the overall health infrastructure and services of the district can be further developed.

Manuscript Information

- ISSN No: 2583-7397
- Received: 08-05-2026
- Accepted: 07-06-2026
- Published: 12-06-2026
- IJCRM:5(3); 2026: 787-793
- ©2026, All Rights Reserved
- Plagiarism Checked: Yes
- Peer Review Process: Yes

How to Cite this Article

Mondal D. A Medical Geographical Analysis of Inequality of Health Services in Dakshin Dinajpur District, West Bengal. Int J Contemp Res Multidiscip. 2026;5(3):787-793.

Access this Article Online



www.multiarticlesjournal.com

KEYWORDS: Medical Geography, Health Infrastructure, Spatial Inequality, Rural Health.

1. INTRODUCTION

Medical Geography or Health Geography is a branch of geography that analyses the interrelationship between health, disease, and the environment. In the modern era, health is not confined only to medical treatment; rather, it is deeply connected with the environment, climate, economy, social conditions, and geographical location. The quality of healthcare services in a region largely depends on the level of human development in that area.

In a developing country like India, inequality between rural and urban healthcare services is a major problem. In West Bengal, unequal distribution of rural health infrastructure can be observed across different districts. Dakshin Dinajpur is mainly an agriculture-based district where the majority of people live in rural areas. Significant differences can be noticed in the quality of healthcare services and health management systems among different parts of the district. Although the healthcare system of Dakshin Dinajpur has improved considerably, many problems still remain, such as the lack of adequate hospitals, shortage of emergency medical services, maternal and child health issues, lack of family planning, and low health awareness. These problems continue to weaken the district's healthcare system day by day. Therefore, it is very important to analyse the regional disparities in healthcare services within the district. The present study attempts a comparative analysis of healthcare services among different blocks of Dakshin Dinajpur in order to highlight the issue of healthcare inequality in the district. This research will help in identifying disparities in health infrastructure, the availability of healthcare services, and the spatial distribution of health facilities within the district.

2. LITERATURE REVIEW

Medical Geography developed significantly during the second half of the twentieth century. Various researchers have conducted important studies on the relationship between health and the environment.

Learmonth (1988) discussed the weaknesses of rural health systems in developing countries. According to his study, the lack of medical services in rural areas greatly affects the quality of life of the people. He showed that deficiencies in rural healthcare infrastructure play an important role in creating health-related problems.

In the Indian context, Akhter (1990) provided an important explanation of Medical Geography and emphasised the geographical analysis of health and diseases. According to him, regional or spatial analysis is essential for finding proper solutions to health-related problems.

Several studies have also highlighted inequalities in healthcare services in West Bengal. Research shows that while Kolkata and its surrounding urban areas enjoy advanced healthcare

facilities, remote rural areas still suffer from underdeveloped health infrastructure. This imbalance negatively affects the overall healthcare system of the state. Border areas and economically backward regions are comparatively weaker in terms of healthcare services even at present.

Comprehensive research on spatial inequalities in healthcare services in Dakshin Dinajpur is comparatively limited.

Therefore, the present study is a small attempt to fill this research gap.

3. OBJECTIVES OF THE STUDY

The major objectives of the present study are:

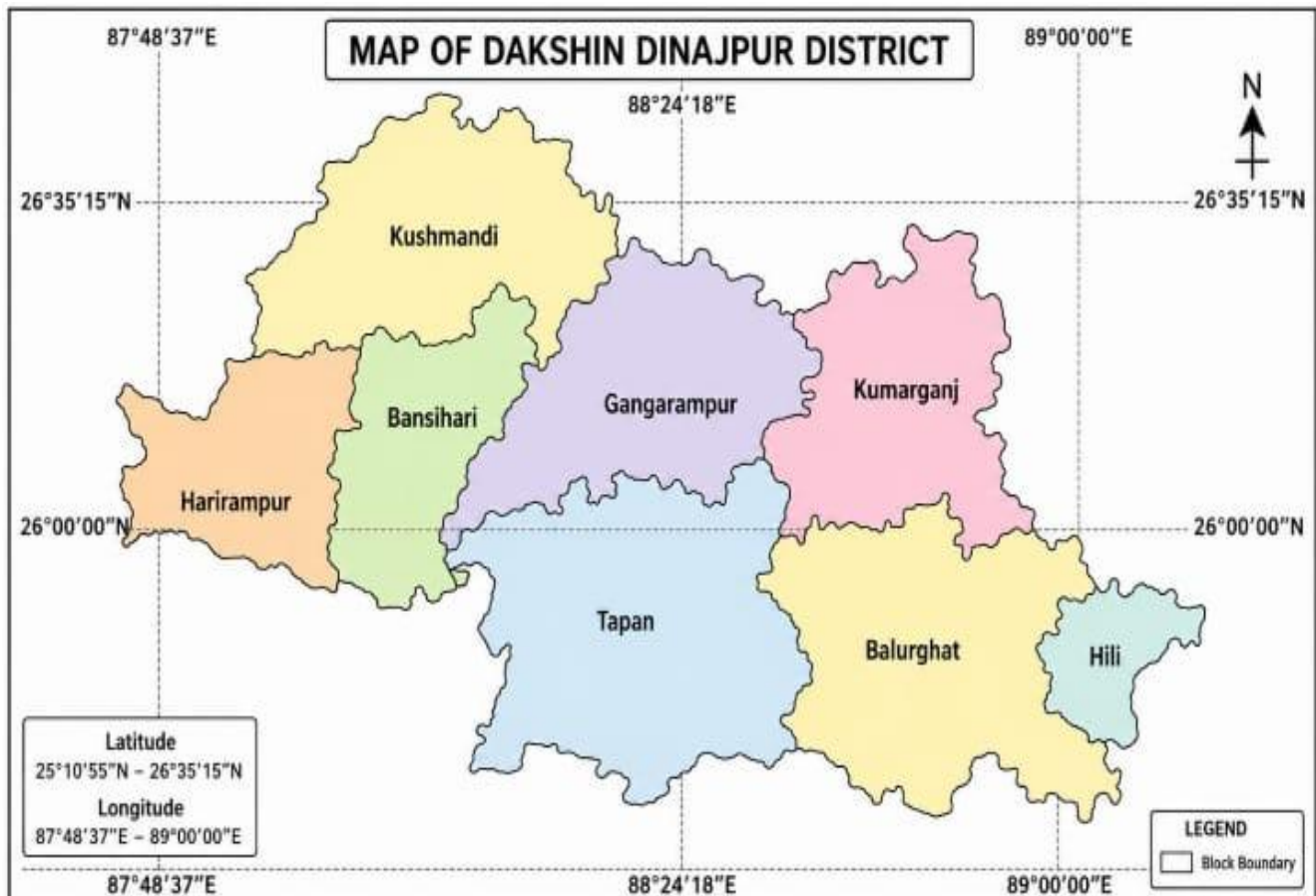
1. To analyse the geographical distribution of healthcare services in the Dakshin Dinajpur district and compare healthcare facilities between urban and rural areas.
2. To identify the disparities in healthcare services between rural and urban regions.
3. To identify the deficiencies and problems of the healthcare infrastructure in the Dakshin Dinajpur district.
4. To examine and analyse the condition of maternal and child healthcare services in different health centres of the district.
5. To provide effective suggestions for the improvement of healthcare services.

Hypotheses

1. Spatial inequalities exist in the distribution of healthcare services in the Dakshin Dinajpur district.
2. Urban healthcare services are more developed than those in rural areas.
3. Transportation systems and economic conditions are directly related to the availability and quality of healthcare services.

Study Area

Dakshin Dinajpur is an important district of West Bengal. The district was formed in 1992 after the division of the West Dinajpur district. The district headquarters are in Balurghat. The district is bounded by Uttar Dinajpur to the north, Bangladesh to the south and east, and Malda to the west. The total geographical area of the district is about 2,219 square kilometres. Major rivers of the district include the Atrai River, Punarbhaba River, Tangon River, Ichamati River, and Shrimati River. Most of the people in the district are directly dependent on agriculture. A large proportion of the population lives in rural areas. The healthcare infrastructure of the district includes district hospitals, rural hospitals, primary health centres in each block, sub-health centres, and private healthcare institutions. However, disparities in healthcare services can be observed in different parts of the district.



4. DATABASE AND METHODOLOGY

In the present study, both primary and secondary data have been used.

Primary Data

The following methods were adopted for the collection of primary data:

1. Field survey
2. Questionnaire survey
3. Personal interview
4. Observation method

Information was collected through discussions with households, patients, and health workers from different blocks of Dakshin Dinajpur District.

Secondary Data

Secondary data were collected from the following sources:

1. Census of India
2. District Statistical Handbook
3. National Health Mission Reports
4. Health Department Reports
5. Government Publications
6. Research Articles and Journals

Conceptual Framework of Medical Geography

Medical Geography mainly analyses the relationship between health and the environment. The spread of diseases, distribution health services, health risks, and health behaviour are closely associated with the geographical environment.

Medical Geography is broadly divided into two major branches:

Disease Ecology

Geography of Health Care

Disease Ecology examines the relationship between diseases and environmental factors, whereas Geography of Health Care analyses the distribution of health services, health infrastructure, and accessibility of healthcare facilities. In the case of Dakshin Dinajpur District, the geographical disparities Healthcare services constitute the central theme of this research.

Health Infrastructure in Dakshin Dinajpur

The health infrastructure of Dakshin Dinajpur includes both government and private health institutions, which play an important role in providing medical services to the people of the district.

District Hospital

The district headquarters of Baluga has the main district hospital, which serves as the chief healthcare centre of the district. On the other hand, the Ganga Rampur Hospital in

Ganga Rampur Block and the Duniapur Hospital in Banshidhar Block also play significant roles in providing healthcare services. The Balurghat District Hospital offers specialist medical treatment, emergency services, maternity care, and various laboratory facilities. However, due to excessive patient pressure, the quality and efficiency of services often face challenges.

Rural Hospitals and Primary Health Centres

Different blocks of the district have rural hospitals and primary health centres. These institutions mainly provide primary healthcare services. However, in many cases, there is a shortage of doctors and medicines.

Sub Centers

Sub-centres in rural areas play an important role in maternal and child healthcare services. ANM staff and health workers conduct vaccination programmes, family planning services, and health awareness campaigns.

Private Health Facilities

There are several private nursing homes and clinics in the urban areas of the district. Among them, Baluga Nursing Home in Baluga town and Phunababa Nursing Home in Ganga Rampur town are notable. However, it is very difficult for poor people to afford these private healthcare services.

Spatial Inequality of Health Services in Dakshin Dinajpur Urban–Rural Disparity

There is noticeable regional inequality in health services in the Dakshin Dinajpur district. Hospitals, doctors, medicines, and advanced medical facilities are easily available in urban areas, while these services are very limited in rural areas. Health services are more concentrated in Balurghat town, whereas nearby villages suffer from a lack of adequate healthcare facilities.

Doctor–Population Ratio

The doctor–population ratio is not equal in all parts of the district. Rural health centres often lack specialist doctors. As a result, many patients have to travel to the district hospital or other towns for proper treatment.

Accessibility Problems

Even today, many villages in Dakshin Dinajpur have poor communication and transport links with health centres. During the rainy season, road conditions become worse, which disrupts emergency medical services.

Economic Inequality

Poverty is a major barrier to healthcare services. Poor families are often unable to afford advanced medical treatment. As a result, problems such as malnutrition, maternal mortality, and child mortality tend to increase.

Maternal and Child Health

Maternal and child health is one of the important indicators of the health development of a region. In the district of Dakshin

Dinajpur, although there has been some improvement in maternal and child health, several problems remain.

Maternal Health

In rural areas, many pregnant women do not receive adequate healthcare services. Problems related to maternal health arise due to a lack of nutrition, insufficient medical facilities, and poor health awareness among women.

Child Health

Malnutrition, diarrhoea, and fever are comparatively common among children. Although vaccination programmes have been successful in many areas, a lack of awareness still exists in some regions, which contributes to a higher child mortality rate.

Institutional Delivery

Due to government initiatives, the rate of hospital deliveries has increased. However, in many rural areas, home delivery is still common. As a result, lack of awareness and proper medical care among rural mothers often leads to complications and maternal deaths during childbirth.

Environmental Health Problems in Dakshin Dinajpur

Environmental health problems are closely connected with the physical environment and directly affect human health. In Dakshin Dinajpur, several environmental issues create challenges for public health and quality of life.

1. Water Pollution

Water pollution is one of the major environmental health problems in the district. Many rivers, ponds, and groundwater sources become polluted due to domestic waste, agricultural chemicals, and improper disposal of garbage. Excessive use of fertilisers and pesticides in agricultural fields contaminates nearby water bodies. In some rural areas, people still depend on untreated pond or tube-well water for drinking and household purposes. Polluted water increases the spread of water-borne diseases such as diarrhoea, cholera, typhoid, and dysentery. Lack of awareness and insufficient water treatment facilities worsen the problem.

2. Sanitation Problems

Poor sanitation remains a serious issue, especially in rural and economically weaker areas. Although sanitation facilities have improved in recent years, some villages still face problems such as open defecation, improper drainage systems, and inadequate waste disposal. Dirty surroundings and stagnant wastewater create unhealthy conditions and help the breeding of mosquitoes and flies. Poor sanitation also contaminates drinking water sources and increases the risk of infectious diseases. Lack of hygiene awareness and poverty are important reasons behind sanitation-related problems.

3. Climate and Disease

Climate conditions strongly influence the spread of diseases in the district. Heavy rainfall and flooding during the monsoon season often create waterlogging, which encourages mosquito breeding and leads to diseases like malaria and dengue. High

temperature and humidity also increase the spread of bacterial and viral infections. During winter, respiratory diseases such as cold, cough, and asthma become more common. Climate change and irregular weather patterns further affect public health, agriculture, and food security. Natural disasters and extreme weather conditions can also damage sanitation and healthcare systems.

Environmental health problems in Dakshin Dinajpur affect both rural and urban populations. Improving clean water supply, sanitation facilities, waste management, and public health awareness is essential for reducing diseases and ensuring a healthier environment for the people of the district.

Major Problems of Health Services in Dakshin Dinajpur

The present study identifies several major problems in the health services of Dakshin Dinajpur. These problems affect the quality, accessibility, and efficiency of healthcare facilities in the district.

Lack of Adequate Hospitals

One of the major problems is the insufficient number of hospitals and healthcare institutions. The existing hospitals are often overcrowded and unable to provide proper treatment to the growing population. In many rural areas, people have to travel long distances to receive medical care.

Shortage of Specialist Doctors

There is a serious shortage of specialist doctors such as gynaecologists, paediatricians, surgeons, and physicians. Most specialist doctors are concentrated in urban areas, while rural healthcare centres suffer from inadequate medical staff. As a result, patients often do not receive proper diagnosis and treatment.

Lack of Health Centres in Rural Areas

Many villages in the district do not have sufficient primary health centres or sub-centres. Rural people face difficulties in accessing regular medical services, maternal healthcare, and vaccination facilities. Poor healthcare infrastructure in remote areas increases the health risks of the rural population.

Shortage of Medicines and Medical Equipment

Government hospitals and rural health centres often suffer from shortages of essential medicines and medical equipment. Patients are sometimes forced to buy medicines from private pharmacies, which increases their financial burden. Lack of modern equipment also affects the quality of treatment.

Weak Transportation and Communication System

Poor road conditions and weak transportation networks create major obstacles in accessing healthcare services, especially during emergencies. In remote villages, patients face delays in reaching hospitals and health centres, which may worsen their medical condition.

Lack of Health Awareness

Many people in rural areas are not fully aware of hygiene, nutrition, vaccination, and disease prevention. Due to low health awareness, people often ignore early symptoms of

diseases and seek treatment at a later stage. Superstitions and dependence on traditional practices also affect healthcare behaviour.

Poverty and Malnutrition

Poverty is another major challenge affecting health conditions in the district. Poor families cannot always afford nutritious food, proper treatment, or medicines. Malnutrition among women and children weakens their immunity and increases the risk of diseases.

Limitations of Emergency Health Services

Emergency healthcare services are not adequately developed in many parts of the district. Shortage of ambulances, emergency medical staff, and critical care facilities creates difficulties during accidents, childbirth complications, and serious illnesses. Delayed emergency treatment often increases health risks and mortality rates.

Findings of the Study

The study has revealed the following important findings:

1. There are significant inequalities in health services.
2. Health services in urban areas are comparatively more developed.
3. Rural areas suffer from a shortage of doctors and health centres.
4. Poor communication and transport systems negatively affect health services.
5. Problems related to maternal and child health are more severe in rural areas.
6. Poverty and lack of health awareness have increased health-related problems.

Suggestions and Recommendations

Improvement of Rural Health Infrastructure

The rural areas of Dakshin Dinajpur need better health infrastructure to provide effective medical services to the people. More Primary Health Centres (PHCs), hospitals, maternity centres, and diagnostic facilities should be established in remote villages. Existing hospitals should also be improved with adequate beds, medicines, medical equipment, electricity, and clean drinking water facilities. Proper health infrastructure can reduce the gap between urban and rural health services.

Appointment of Doctors

There is a shortage of doctors and specialist medical staff in many rural parts of the district. The government should appoint more qualified doctors, nurses, and health workers in village health centres and block hospitals. Special incentives, better salaries, and accommodation facilities may encourage doctors to work in rural areas. Regular medical training and monitoring are also necessary to improve the quality of healthcare services.

Mobile Medical Units

Mobile medical units can play an important role in providing healthcare services to remote and inaccessible villages. These units can offer basic treatment, health check-ups, vaccination services, maternal care, and emergency support. Mobile health

services are especially helpful for poor and elderly people who cannot easily travel to hospitals. Regular visits by mobile medical teams can improve rural healthcare accessibility.

Health Awareness Program

Lack of health awareness is one of the major causes of disease and poor health conditions in rural areas. Government and non-government organisations should organise health awareness programs regarding sanitation, nutrition, vaccination, maternal health, child care, and prevention of diseases. Awareness campaigns through schools, community centres, and local media can help people adopt healthy lifestyles and seek timely medical treatment.

Improvement of Transport and Communication

Poor transport and communication systems create difficulties in accessing healthcare services in rural areas. Roads connecting villages with hospitals and health centres should be improved. Better ambulance services and emergency transportation facilities are also necessary. Improved communication networks can help people contact doctors and hospitals quickly during

emergencies. Good transport and communication systems can save lives and ensure faster medical assistance.

5. CONCLUSION

Dakshin Dinajpur is an important area for studying medical geography and present-day health problems. The analysis of spatial inequality in health services in the district shows that the health infrastructure is still not equally developed in all areas. Although some regions have comparatively better health facilities, rural and border areas continue to face significant shortages in healthcare services.

The lack of adequate hospitals, shortage of specialist doctors, poor transport and communication systems, poverty, and lack of health awareness greatly affect the healthcare system of the district. However, government initiatives, the National Health Mission, and various public health programmes are gradually improving the situation.

For better healthcare development, integrated planning, improvement of rural health infrastructure, and increasing public health awareness are extremely important. This study will be helpful for future health planning and further research in the field of medical geography in Dakshin Dinajpur.



Balurghat Super Specialty Hospital,



Balurghat District Hospital



Gangarampur Super Speciality Hospital,



Rasidpur (Buniadpur) Rural Hospital



Balurghat District Hospital (Emergency Ward)



Hari Rampur Rural Hospital

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