HEALTHCARE FACILITIES IN DEVELOPING COUNTRIES
A Case Study Of Mau, India

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A Case Study of Mau, India

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PREFACE

The state of people's health is an important indicator of the quality of human life and the Human Development Index. Health, a multi-dimensional issue, is influenced by a complex combination of socio-economic, individual and environmental factors. Some of the major factors include food, housing, education, income, basic sanitation, nature of lifestyle, protection against environmental hazards and communicable diseases. A healthcare facility in India is multi-tiered and has been devised using population size and physical distance to the available healthcare facility. At the time of independence, the healthcare facilities were rudimentary, poorly developed, underfunded, ill-equipped, poorly staffed and mostly confined in urban areas, in the form of sub-divisional and district hospitals.

This book is organised into five chapters along with a summary and conclusions. **Chapter one** introduces the research theme, its relevance, objectives, research questions, methodology and the basic characteristics of the study areas.

In **chapter two**, the conceptual and theoretical framework of healthcare facilities is discussed. Health is fundamental for development of individuals and communities as a whole. Availability, accessibility and affordability, community participation and technology are fundamental criteria for the evolution of a sound healthcare system. A complex combination of factors, including socio-economic factors, affects not only the development of healthcare facilities but also their utilisation. In India, the modem healthcare system evolved during the British period, but real development took place after the independence following the recommendation of several committees and the implementation of five-year plans. Among the committees, the Bhore Committee (1946), Mudaliar Committee (1962), Chadha Committee (1963), Mukherjee Committee (1966), Jungalwalla Committee (1967), Kartar Singh Committee (1973), Shrivastav Committee (1975) and Mashelkar Committee (2003) are notable. Recommendations of these committees have been implemented primarily through the five-year plans. Consequently, the healthcare system evolved in three distinct phases, i.e., first phase (1947–1983), second phase (1983–2000) and third phase (post-2000). Healthcare in India is delivered through a three-tier structure

of health services comprising the primary, secondary and tertiary healthcare facilities, which include district hospital, CHCs (community health centres), PHCs (primary health centres) and SCs (sub-centres). This chapter throws light on healthcare facilities of all kinds in India and discusses variation in their availability, accessibility and affordability.

Chapter three analyses the distribution of healthcare facilities, focusing on their spatiotemporal change, rural-urban variations and availabilities of healthcare facilities across nine blocks of the district according to population distribution. Densely populated areas as well as villages have access to the nearest PHCs, whereas Ranipur, Pardaha, Fatehpur Madaun and Kopaganj have higher percentages of villages and populations with no access to the nearest PHC. Hence, it can be summed up that the healthcare facilities in the allopathic domain show a declining trend in terms of population, leaving a few, over the two decades, which is not a good sign as it is bound to create more pressure on the existing over-burdened facilities. There is an urgent need to increase the number of beds and staff (paramedical, doctors and others) in the district in order to provide easy access to healthcare facilities. Institutional arrangements such as large infrastructure and qualitative changes like availability of medicines, presence of doctors and availability of basic amenities at healthcare institutions are to be made on a sustained basis, if we want to attract the poor to use the public health facilities with confidence.

Chapter four discusses the utilisation of healthcare services and ascertains the relative significance of socio-economic factors affecting treatment behaviour. Utilisation of government healthcare facilities by families living in urban areas is compared to those in the villages. Utilisation of available health facilities at the district hospital is poor among both rural and urban areas for two main reasons: first, its location in the largest urban centre of the district where a sufficient number of good private hospitals provide perceptively better health services; and second, it is found suitable for critical diseases, not as a place of first visit in case of illness.

Chapter five highlights the perceptions people have about healthcare facilities, and their awareness and attitude about different healthcare programmes in study area. In the present study, the perceptions of people about the healthcare facilities have been analysed. This chapter explains the awareness of respondents about the NRHM (National Rural Health Mission), their satisfaction with the treatment process, problems faced during hospitalisation and the overall perception of respondents about healthcare services. It is noted that, out of a total of 680 respondents, only

about 14 per cent of the respondents are satisfied by medicines provided by hospitals and 27 per cent are not satisfied, while 59 per cent of the respondent did not answer regarding satisfaction with medicine provided by healthcare providers in hospitals. Among 145 female respondents, no one was found to be satisfied with the medicine. Out of the female respondents, 20 per cent did not respond.

Finally, conclusions and suggestions are given.

ACKNOWLEDGEMENTS

LIST OF ABBREVIATIONS

ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathic
BCG	Bacillus Calmette--Guérin
BMSP	Basic Minimum Services Programme
BPL	Below Poverty Level
BPHC	Block Primary Health Centre
CBR	Crude Birth Rate
CDR	Crude Death Rate
CHC	Community Health Centre
DGHS	Directorate General of Health Services
DLHS	District Level Household and Facility Survey
DPT	Diphtheria, Tetanus and Pertussis
ECG	Electro-cardiogram
FRU	First Referral Unit
GDP	Gross Domestic Product
GNM	General Nurses and Midwives
HFA	Health for All
HFU	Health for Underprivileged
IFA	Iron and Folic Acid
IMR	Infant Mortality Rate
IPHS	Indian Public Health Standards
ISM	Indian Systems of Medicine
KM	Kilometre
LHV	Lady Health Visitor
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MMR	Maternal Mortality Rate
MNP	Minimum Needs Programme
MPW	Multipurpose Worker
NGO	Non-government Organisation
NH	National Highway
NHP	National Health Policy
NLEP	National Leprosy Eradication Programme
NMEP	National Malaria Eradication Programme
NSSO	National Sample Survey Organisation

NTCP	National Tuberculosis Control Programme
OADR	Old Age Dependency Ratio
OPD	Outpatient Department
PCI	Per-Capita Income
PHC	Primary Health Centre
PRI	Panchayat Raj Institution
RCH	Reproductive and Child Health
RMP	Registered Medical Practitioner
SC	Sub-centre
SQ	Square
TB	Tuberculosis
TFR	Total Fertility Rate
TT	Tetanus Toxoid
UMI	Upper Middle Income
WHO	World Health Organization
UNICEF	The United Nations Children's Fund

CHAPTER 1

INTRODUCTION

Health is one of the priorities in every individual's life. Its importance is evident in the old saying, "Health is Wealth". Health is a vital aspect of human life and development of an individual in particular and a nation as a whole. It is inevitably linked to actualisation of human energy, capacity, and potential for using economic and human resources in order to bring prosperity and happiness. Therefore, health is a common theme in all cultures, and different communities have their own concepts of health as part of their cultures. Health, today, is considered an integral part of human development. The definition of "health" as given by the World Health Organization (WHO) describes health as a state of complete physical, mental, social and spiritual well-being and not merely as the absence of disease or infirmity. The modern medical facilities are striving towards achieving this multi-faceted concept of health for the population.

The National Health Policy 1983 (NHP-1983) envisaged a three-tier structure of primary, secondary and tertiary healthcare facilities to bring healthcare services within the reach of the rural population. Under the primary tier, three types of healthcare institutions were planned: (1) a sub-centre (SC) for every 3,000–5,000 people; (2) a primary health centre (PHC) for every 20,000–30,000 people; and (3) a community health centre (CHC) to serve as a referral centre for every four PHCs covering a population of 80,000–120,000. The district-level hospital serves as a secondary tier for rural healthcare and provides primary healthcare services for urban areas. Tertiary healthcare is provided by institutions in urban areas, which are often well equipped with state-of-the-art technology for diagnostic and investigative facilities. Since 1983, there have been marked changes in the determining factors relating to the health sector. Some of the policy initiatives outlined in the NHP-1983 have yielded results, while, in several other areas, the outcome has been far below the expected level. Therefore, a new health policy was formulated in 2002.

The National Health Policy 2002 (NHP-2002) focuses on the need for enhanced funding and an organisational restructuring of the national public health initiatives in order to facilitate more equitable access to the health facilities across the country. The approach was to improve access to health through the decentralised public health system by establishing new infrastructure in deficient areas, and by upgrading the infrastructure in the existing institutions. The policy advocated for greater emphasis on increasing public-private investment in the health sector, on strengthening the capacity of public health administration, on rendering effective service delivery and on ensuring rational use of drugs within the allopathic system. The policy gives primacy to preventive and first-line curative initiatives at the primary health level and increased access to tried and tested systems of traditional medicine. The policy specifically stressed the following aspects:

a) Need to enhance financial resources in the health sector;
b) Equity and effective delivery of national public health programmes;
c) Strengthening and expansion of public health infrastructure and services;
d) Increasing the role of private-sector, local self-government institutions and community;
e) Education of healthcare professionals and nursing personnel;
f) Cost-effective public healthcare through increasing the use of generic drugs and vaccines;
g) Information, education and communication to maximise the dissemination of information to those population groups which cannot be effectively approached by using only the mass media;
h) Giving priority to school health programmes which aim at preventive-health education, providing regular health check-ups and promotion of health-seeking behaviour among children;
i) Health research for developing cost-effective operational applications and therapeutic drugs/vaccines.

This policy envisages the full operationalisation of an integrated disease control network (National Disease Surveillance Network) from the lowest rung of public health administration to the central government, use of statistical techniques for completion of baseline health data, and the need to establish national health accounts. It also stresses identification of specific programmes targeted at women's health, mental health, medical ethics, and enforcement of quality standards for food and drugs. The policy proposes the setting up of an organised two-tiered urban primary healthcare structure: the primary centre covering a population of one lakh

as a first-tier unit, with a dispensary providing an outpatient department (OPD) facility and essential drugs, to enable access to all the national health programmes; and a second tier of the urban health organisation at the level of the government general hospital, where references are made from the primary centre.

In pursuance of these policies, over time, a vast network of healthcare institutions has been created in the rural and urban areas of the country. Substantial resources, though inadequate, have gone into planning and implementing the health and family welfare programmes. Increased availability of healthcare and its utilisation has contributed to the improved health status of the population as reflected in the improved life expectancy and decline in mortality rate and a fall in the birth rate to some extent. However, these achievements have not been uniform across the various states and districts or between rural and urban areas in the country. Moreover, in successive reports similar recommendations are made repeatedly, and by implication this means that the policy guidelines are at best only partially getting implemented. The morbidity and mortality levels in the country are still unacceptably high. By virtue of being a signatory to the International Conference on Population and Development (ICPD), the Government of India (GOI) is committed to pursuing the goal of providing healthcare to its entire population. After independence, through the setting up of the Department of Health and Family Welfare both at the central and state levels, the government established a multi-tier health infrastructure network across the nation and engaged health functionaries at different levels.

Health, a multi-dimensional issue, is influenced by a complex combination of socio-economic, individual and environmental factors. Some of the major factors include food, housing, education, income, basic sanitation, nature of lifestyle, protection against environmental hazards and communicable diseases. Health is closely associated with every aspect and activity of human life; hence, its frontiers are not confined to the narrow limits of medical care, though "healthcare" is a better concept that addresses issues beyond controlling illness and infirmity. "Healthcare" embraces a multitude of services and facilities provided to individuals or communities by agents of the health services or professionals for the purpose of promoting, maintaining, monitoring or restoring health (Singh 2002). Healthcare covers a broad spectrum of services ranging from education in hygiene and information for prevention of various diseases to early diagnosis and treatment. It also implies institutions, organisation, staffing regulation and quality control. So, healthcare facilities and

services may be defined as, "all those personals and community health services including medical care and related education and research oriented towards protection and promotion of the health of the community" (WHO 2002). Medical care is a subset of the healthcare system. A good medical system tries to enhance the health of the masses through various preventive and protective measures. Healthcare is considered one of the basic human rights in many countries across the world. Consequently, the governments provide human care services and facilities to their citizens.

Good health of a population largely depends on many factors like existing environmental risks (physical, biological and social), and the demographic, cultural and economic conditions prevailing in the region. In India, since independence the government has introduced a comprehensive primary healthcare system to promote effective healthcare for the masses in both rural and urban areas of the country. Healthcare is a state subject; consequently, the responsibility of health facilities and services rests with the state governments. The onus of the central government primarily lies in formulation of a national health policy and monitoring its implementation through coordination of the different levels.

Each healthcare facility in India is multi-tiered and has been devised using population size and physical distance to the available healthcare facility. At the time of independence, the healthcare facilities were rudimentary, poorly developed, underfunded, ill-equipped, poorly staffed and mostly confined in urban areas, in the form of sub-divisional and district hospitals. These facilities were inadequate to cure widespread recurrences of communicable and infectious diseases like cholera, chickenpox, plagues and malaria. Consequently, two committees, viz. the Health Survey and Development Committee led by Joseph Bhore (established by the British government in 1946) and the National Planning Committee under the chairmanship of Pandit J. L. Nehru (established by the Congress Party in 1938) were constituted to suggest a future course of action. The report of the Bhore Committee prevailed over the National Planning Committee's report due to several reasons. The Bhore report provided the framework for most health decision in independent India. The Bhore Committee placed stress on rural health and a socialised system of health services in which public health provisions dominate and eventually replace private medical practices. The report also emphasised insurance-based services for industrial workers. The "comprehensive healthcare system" advocated by the Bhore Committee rested on the following criteria:

1. Integration of adequate promotive, preventive and curative measures should be attained with the help of full-time salaried workers.
2. Provision of healthcare facilities and services to rural masses.
3. Services should be as close to the beneficiaries as possible.
4. Inter-linking of rural health centres with larger health centres at district level.
5. There should be a substantial increase in public investment in the health sector, and the shortage of trained personnel should be resolved.
6. Emphasis should also be placed on health education, awareness and peoples' cooperation in order to change the mental habits and ways of life of the masses.

Additionally, the Bhore Committee report stressed campaigns against specified diseases, particularly malaria, tuberculosis, venereal diseases and leprosy. Implementation of the Bhore Committee report was based on a more official and authoritative top-down planning perspective based on health centres staffed by doctors and ancillary staff. Later on, from time to time, a number of committees were set up to evaluate the existing health condition and status of infrastructure and services. Implementation of suggestions and recommendations of these committees helped in extension and up gradation of healthcare facilities and services as well as formed the basis of the National Health Policies of 1983 and 2002.

1.1 Review of literature

Various studies on utilisation of healthcare facilities at the micro as well as macro level have been conducted by a number of scholars in India and abroad. Early studies in health geography were mainly focused on analysing distribution and cause of disease and the spatial pattern of healthcare facilities. Some of the major studies include Akhtar (1978), Bladen and Karan (1975), Dutt (1962), Ranganna et al. (1968), Panikar (1979), and Chib (1985). Now, the focus has been shifted to promotive and curative aspects of health under the term "healthcare". Healthcare utilisation is the use of healthcare services by people. The healthcare utilisation of a population is related to the availability, quality and cost of services, as well as to socio-economic structure and personal characteristics of the users (Chakraborty et al. 2003; Manzoor et al. 2009). The under-utilisation of the health services in the public sector has been almost a universal phenomenon in developing countries (Zwi 2001) like India

(Brown et al. 1998) identify eight dimensions of healthcare service delivery: effectiveness, efficiency, technical competence, interpersonal relations, access to service, safety, continuity, and physical aspects of healthcare. Robert (1984), in a research article, discusses a variety of aspects of research design and data deficiency problems inherent in well-established approaches in medical geography and the geography of healthcare. It reviews the work and raises many issues and pleads for greater care on the part of researchers to be aware of the limitations of the data base, and to develop more rigorous research designs, and to refrain from implying cause-effect relationships where the data relate to aggregate levels of spatial scale.

Al-Taiar et al. (2010) investigate the relationship between different measures of physical access, including straight-line distances, road distances and travel time, and the impact of these measures on the vaccination of children in Yemen. They found that straight-line distances, driving distances and driving time are strongly linked and associated with vaccination uptake and highlighted the need for efforts to target vaccination and other preventive healthcare measures to children who live far from health facilities. Islam and Aktar (2011) measured physical accessibility of health facilities by population coverage, average travel time and distance to the closest hospital in the city of Khulna, Bangladesh. The study found that even with existing health facilities, discontent about the unavailability of health services can be mitigated in most areas. Exceptions are some peripheral areas, where average travel time to reach the city centre and distance from hospital services are greater. Such a study is necessary to enable the government to identify precise locations where healthcare services need to be delivered to ensure optimum level of outcome. Awoyemi et al. (2011) studied the effect of distance on utilisation of healthcare services. The result reveals that household size, distance and total cost of seeking healthcare affect the utilisation of government and private hospitals while total cost of seeking healthcare and the quality of access routes affect the use of traditional care. The policy implication arising from this study suggests that distance to improved health facilities and the total cost of seeking healthcare need to be reduced to enhance access to improved health services among various socio-economic groups.

Michael et al. (2004) apply and compare two GIS-integrated methods using several layers of information for measuring physical access to healthcare in Central America. The results of these methods are used for cost-effectiveness analysis and population coverage estimates as well as

for resource planning within countries. Anand (1991), in the study of the Tiruchirapalli district of Tamil Nadu, analyses optimum locations of healthcare facilities using two sets of analysis---one related to the accessibility and the other related to the location-allocation of facilities. The result regarding location solutions demonstrated the range of alternatives available for the district in creating a healthcare system which would individually prove quality and efficiency options.

A study undertaken by Ranganna et al. (1968) at the Sarojini Nagar Primary Health Centre, Lucknow, showed that healthcare rendered by the PHC is inadequate because the area to be covered includes many people who live more than five miles from the centre, the population to be served is too large and the per-capita expenditure for medicine is insufficient. Some of its findings are still relevant. Banerjee-Guha and Joshi (1985) studied the spatial distribution of health facilities in Pune district to bring out the disparity in the distribution at two levels. A wider disparity was found in the Pune metropolitan region and the remaining Talukas of Pune district, while the inter-urban disparity and the supremacy of the metropolitan core was dominant at the level of Pune city and the other settlements.

Choubey (1986), in his study, identifies certain geographical aspects of the healthcare problem in Madhya Pradesh. The study reveals that healthcare facilities are better around Bhopal as well as other developed towns of the state, while in remote, hilly and tribal areas—particularly in the eastern part of the state—-healthcare facilities are as a whole not satisfactory. Ahmad and Shamim (2004), in their study, evaluate the position of health facilities in Meerut district, which is the most viable unit in which to examine the level of social well-being. Analysis of various indicators pertaining to health facilities (medical and sanitary) clearly reveals a wide gap in the distribution of health facilities with reference to size of population.

Debapriya and Mohanty (2008), in their paper, tried to evolve a sound statistical methodology to measure the regional imbalance prevailing in the levels of development of education and healthcare facilities in the state in quantitative terms. Mukherjee and Levesque (2010) observe that, contrary to the widespread belief of increasing inequality in the health sector, economic status-related inequality in inpatient care utilisation has declined in recent years. However, a lowering of inequality has not made the situation more equitable for the poor because of a high increase in the rate of inpatient care utilisation, a decline in dependence on government

hospitals and a steep hike in the cost of inpatient care. In a majority of states, the average cost of inpatient care, even at government hospitals, has grown at a much higher rate than the prices of essential food items. The hardships faced by the rural poor in meeting healthcare expenses show that the net result has been a welfare loss for them.

Women and their children are more frequent users of healthcare facilities than men (Mustard et al. 1998). Singh and Rajeshwari (1996) conducted a study to access gender bias in utilisation of healthcare facilities in rural Haryana. The study shows that the availability of public healthcare facilities at the place of residence had a positive impact on women's health status when the comparison was made between the PHC and non-PHC villages. The study reveals that infant and child mortality was highest where there was no medical facility and trained birth attendance. It concludes that the level of female healthcare is positively affected by economic development and the gender disparity is reduced with the overall economic development of an area. The educational status of the head of the household emerged as an important factor which had a positive effect on women's healthcare (both preventive and curative) in PHC and non-PHC villages. It is suggested that the provision of public healthcare facilities at the place of habitation, coupled with increased educational status or awareness of various healthcare programmes, would reduce the selective bias against women.

Hazarika and Barah (2009), in a study, explore community-wise reflections on education and health in women from the rural areas in the Jorhat district. This study has revealed that there still exists a wide community variation in female literacy, healthcare and access to health facilities. No doubt, a balance has to be maintained for effective population control and providing healthcare, but the picture is dismal, especially among the scheduled caste population. Recognising that the determinants of an individual's health extend beyond individual and household risk factors, recent studies have examined community influences on health outcomes. Such studies relate individual health outcomes to the socio-economic characteristics of the community (e.g., levels of economic development) and the community health infrastructure (e.g., presence and quality of health services).

Weisner (1977), in the study of southern rural Gujarat (India), evaluates the relative impact of community work intervention and socio-economic factors on utilisation behaviour in the health sector. Using primarily correlation and regression analysis, factors identified as significant

determinants of utilisation include distance, wealth, caste, literacy and the existence of a village cooperative. Notably absent are indicators of community work intervention, that is, village meetings, community health worker visits and health talks. A major implication of the study is that geographic and socio-economic conditions should play a greater role in determining community health work policy and strategy at the village level. Akhtar (1978), in his study of Rajasthan, explores spatial distribution of available health facilities over two points in time, i.e., during 1960 and 1970, to compare variation in the growth of healthcare facilities with the growth in population. Kumari et al. (2006), in their study of Kurnool district in Andhra Pradesh, asserted that healthcare delivery systems must be examined as part of the society in which they are embedded, particularly in developing countries like India where there is a larger and more diversified population. A number of social, economic and cultural factors appear to constrain accessibility and also result in differential utilisation rates and healthcare delivery system patterns. Singh and Rajeshwari (1996) examined the relationship between utilisation of healthcare facilities and the elements of social structure in rural Haryana. In Bhiwani district, upper-caste households benefit the least from the healthcare facilities. The reason for the lower level of utilisation of healthcare facilities here may be due to lack of proper health education.

Trakroo (1993), in the study of Meerut district, Uttar Pradesh, focuses on the factors that influence the utilisation of health facilities by the scheduled caste population. The study showed that the health culture among rural people is equally shared by the scheduled castes and non-scheduled caste groups. No striking differences were found existing either in perception or in health practices which could be attributed to a particular caste only. However, the slight differences in perceived morbidity pattern, and in utilisation of health and MCH services, between two castes can be explained in terms of socio-economic disparities. The study also shows that the relationship between physical illness and existing medical care is an extremely complex phenomenon and simple provision of health services may not be adequate to cut across or eliminate poverty. Dalal and Dawad (2009), using logistic regression analyses in the study of women in India, indicated that respondents' education, economic status and standard of living are significant predictors for non-utilisation of public healthcare facilities. Women who sought the services of care delivery and health check-ups indicated a lack of health personnel. Further, service seekers for self and children's medical treatments indicated that there were no nearby health facilities, that service times

were inconvenient, and that there were long waiting times and poor-quality healthcare.

A study by Bansod and Lingaraju (2009) of Karnataka state attempts to determine the level and status of healthcare facilities and their utilisation, as well as factors affecting healthcare utilisation and its regional variations. Nath et al. (2008) found that due to poor primary healthcare services, utilisation of limited secondary and tertiary health institutions has increased tremendously in recent years as a majority of the patients coming to referral centres were new patients (89 per cent), about two-thirds of whom had come there directly. In addition, their expenditure on healthcare also increased tremendously. George and Nandraj (1993), in a comparative study of Indian states, showed that development of health facilities is an outcome of different factors in different states. For instance, in Maharashtra and Punjab this may be attributed to high per-capita income (PCI) and good economic development, while Kerala shows a good development in the health sector in the context of low PCI and a low level of industrialisation. While the first pattern could be attributed to the trickle-down effect of capitalist modernisation of the industrial-cum-agrarian variety in Maharashtra and of the predominantly agrarian variety in Punjab, the second is rooted in the socio-political, geographic and demographic particularities of Kerala.

Majumder (2006), in the study of rural and urban areas of the Cooch Behar and Jalpaiguri districts of North Bengal, applies econometric tools in an inter-disciplinary framework to investigate how patterns of utilisation of healthcare are affected by different socio-economic, demographic and other relevant factors. Among the major influencing factors, demographic factors like age and family size have been deemed important determinants of utilisation of care. Children in the 5–14 age group are by and large neglected. The probability of utilisation is seen as higher in small families than in the large families. The demand for public health facilities is tremendously high as compared to that of private health facilities in rural areas of the districts. The probability of utilisation is very high in rural areas when the preference for the system of medicine is homeopathy. Availability of health facilities is seen to have a negative impact on utilisation of a care. The underlying assumption was that in the urban areas health facilities are available. However, the result indicates that as compared to the people of the rural areas, urban dwellers are likely to avoid utilising care from a modern source. It points out higher chances of self-treatment or family treatment or other treatment by the urban dwellers. By contrast, there are higher chances of utilisation of care from

modem sources in towns by the rural people who generally experience unavailability of health facilities in their local areas. Cost of treatment seems to affect utilisation of care positively. It tacitly indicates that people are compelled to pay more when they seek care from modem sources. Cost or price of care does not play the role that it usually does in the case of other economic goods. The question of financing of healthcare is, therefore, drawing our attention.

Basu (1990) studied two distinct regional groups of similar socio-economic status residing in the same locality and, therefore, theoretically exposed to the same health services. The researcher found that both groups share a strong faith in modern medicine (especially if it is obtained from a private practitioner) for the treatment of most common illnesses. However, important cultural differences exist in the medical services sought for childbirth and in the treatment of morbidity in children of different ages and sexes. Hence, mere provision of healthcare services does not lead to their better utilisation. Chirmulay (1997) studied the preferences of people regarding healthcare providers in relation to their socio-economic backgrounds. The perceived quality of services was an important determinant of the pattern of utilisation. Private practitioners were perceived to be providing better services because they included injections as part of every treatment and were willing to make home visits which were convenient, especially where transportation was inadequate. The government health services were not popular because of the longer waiting period involved, the arrogant attitude and behaviour of all the staff, and non-availability of medicines. In addition, levels of education in the family, caste, affordability (asset-holding) and culture were the factors which determined the utilisation pattern. In general, those with better levels of education, those belonging to dominant and higher castes, and those with more assets preferred private practitioners. However, in traditional and cultural strongholds, relatively uniform behaviour was observed across caste and economic groups.

Sodani et al. (2010) measured the satisfaction of Outdoor Patient Department (OPD) patients with public health facilities in MP in order to improve their quality. Suresh (2011), in his research article, elucidates the vital role of health promotion, i.e., a research-based communication process, in achieving developmental goals—particularly health goals. His article underscores that communication is as much a science as an art, as much a process as it is about process. It advocates for increased linkages between epidemiological research and social science research in planning effective health promotion interventions with quality service delivery,

strategic communication, behaviour change communication, advocacy and social mobilisation. Deivamani (2000) reviews the health status of the people in Tamil Nadu as such status is an important indicator of the welfare of the people. The author recommends improvement in both the formal and non-formal health education systems. Sharma and Narang (2011), in their study, illustrated some interesting differences in user perception regarding healthcare service quality and how it varied between different healthcare centres and according to the demographic status of patients. The study observed that "healthcare delivery" and "financial and physical access to care" significantly impacted the perception among men while among women it was "healthcare delivery" and "health personnel conduct and drug availability". Further, with improved income and education, the expectations of the respondents also increased. It was not merely the financial and physical access that was important but the manner of delivery, the availability of various facilities, and the interpersonal and diagnostic aspect of care as well that mattered to the people with enhanced economic earnings. Purohit and Siddiqui (1994), in assessing the pattern of utilisation of health services in India through analysis of macro-level information, find out some desirable outcomes in terms of: (a) growing popularity of indigenous non-allopathic systems, and (b) growth in the private sector's involvement in expensive tertiary care.

Nonetheless, as against the National Health Policy guidelines, it is distressing to note that the regional disparities in health service utilisation among different expenditure groups of states as well as rural-urban disparities tend to continue. Further, in spite of the inadequacy of health services and prevalence of inequality in utilisation, there has been no serious governmental initiative to encourage appropriate utilisation by means of devising health insurance and other cost recovery mechanisms. Baru (1994), in an inter-state analysis of structure and utilisation of healthcare services, argued that the majority of the lower socio-economic groups are dependent on public provisioning; hence, any slashing of investments in the health sector is expected to further marginalise this group. Therefore, a cutback of public services would only result in greater disparities of access in terms of rural-urban differentials, advanced and least-developed areas, and across classes. Purohit and Siddiqui (1994) concluded in their study that the pattern of utilisation in our country had some desirable outcomes, namely the growing popularity of indigenous non-allopathic systems and growth in the private sector's involvement in expensive tertiary care. As against the National Health Policy guidelines (1983), the regional disparities in health service utilisation among different expenditure groups of states as well as rural-urban disparities tend to

continue. Further, in spite of the inadequacy of health services and prevalence of inequality in utilisation, there has been no serious governmental initiative to encourage appropriate utilisation by means of devising health insurance and other cost recovery mechanisms.

Obimbo (2003) critically reviews the advantages and disadvantages of selective versus comprehensive primary healthcare approaches as a strategy towards improving health in the developing world. Selective PHC programmes have improved specific aspects of health, frequently at the expense of other health sectors, but fail to address an individual's health in a holistic manner or the health infrastructure of countries. Selective PHC programmes tend to focus only on a small subset of the community. Comprehensive PHC is expensive to implement; however, it addresses the health of individuals more holistically, addresses both preventive and curative healthcare, and promotes health infrastructure development and community involvement, thereby providing more sustainable improvement of health in the whole community.

These studies are focused largely on the availability and accessibility aspects of healthcare institutions. The quality of services rendered at individual level and the perception of the users remain less researched. Another question that needs to be addressed is the nature of users, meaning who goes to PHCs, CHCs and other government healthcare institutions. The question of whether income affects the user profile and other socio-economic aspects needed to be answered. In the present work, attempts are made to answer these questions. For our purpose, the district of Mau - one of the least-developed districts from eastern Uttar Pradesh in terms of healthcare infrastructure - is taken as a case to elaborate upon some of these issues.

1.2 Study area: The district of Mau

Utilisation of available healthcare and adopting a healthy lifestyle and use of preventive measures to ensure good health depends on the cultural landscape of the region. There are certain factors which considerably affect the cultural landscape of any area. Among these factors, the physical setting appears to be the most important as it presents a platform for various human activities including the process of human occupation. Its major components include relief, drainage, climate, soil and water. The physical attributes of the area under study directly affect human health as specific physical characteristics lead to emergence and persistence of different disease ecologies. These attributes play a significant role in

special variation of disease occurrence as well as the state of healthcare facilities. Therefore, a brief appraisal of an important constituent of the physical setting is essential to analyse the state of health and utilisation pattern regarding healthcare facilities in the study area of the district of Mau.

1.2.1 Location and extent

District Mau is situated in the Ganga-Ghaghara plain (Doab) of eastern Uttar Pradesh in India. It extends from25°41'35'' N to 26°16'37" N latitude and 83°17'49" E to 83°46'12" E longitude. It is surrounded by district Ballia in the east, district Azamgarh in the west, district Gorakhpur in the north, district Deoria in the north-east and district Ghazipur in the south (Fig 1.1). District Mau covers an area of 1727.96 sq km and is one of the smallest districts of Uttar Pradesh. It is comprised of four tehsils, namely Mau Nath Bhanjan, Ghosi, Madhuban and Muhammadabad Gohana. For administrative and development purposes, the district has been further sub-divided into nine development blocks, which include Doharighat, Ghosi, Badraon, Kopaganj, Fatehpur Madaun, Pardaha, Ratanpura, Muhammadabad Gohana and Ranipur. There are as many as nine towns, i.e., Mau, Kopaganj, Muhammadabad Gohana, Ghosi, Doharighat, Adari, Amila, Khairabad and KurthiJafarpur, in the district (Fig 1.1).

1.2.2 Physiography

The district is a part of a vast depositional plain drained by tributaries of the River Ganga like Ghaghara and Tons (Fig 1.2). The slope of the plain is gentle and characterised by small depressions, natural drains, ponds, etc. Among the depressions, Pakadi ka tal, Ratoytal, Narjatal and Gambhir ban tal are notable. The relief is low and the altitude decreases from 85m in the west to 75m in the east. Relative relief is generally seen on either banks of the rivers (3 to 5m) like Ghaghara and Tons. The drainage system of the district follows the general slope from west to south-east.

LOCATION MAP

Fig 1.1

DISTRICT MAU

TRANSPORT & DRAINAGE

N
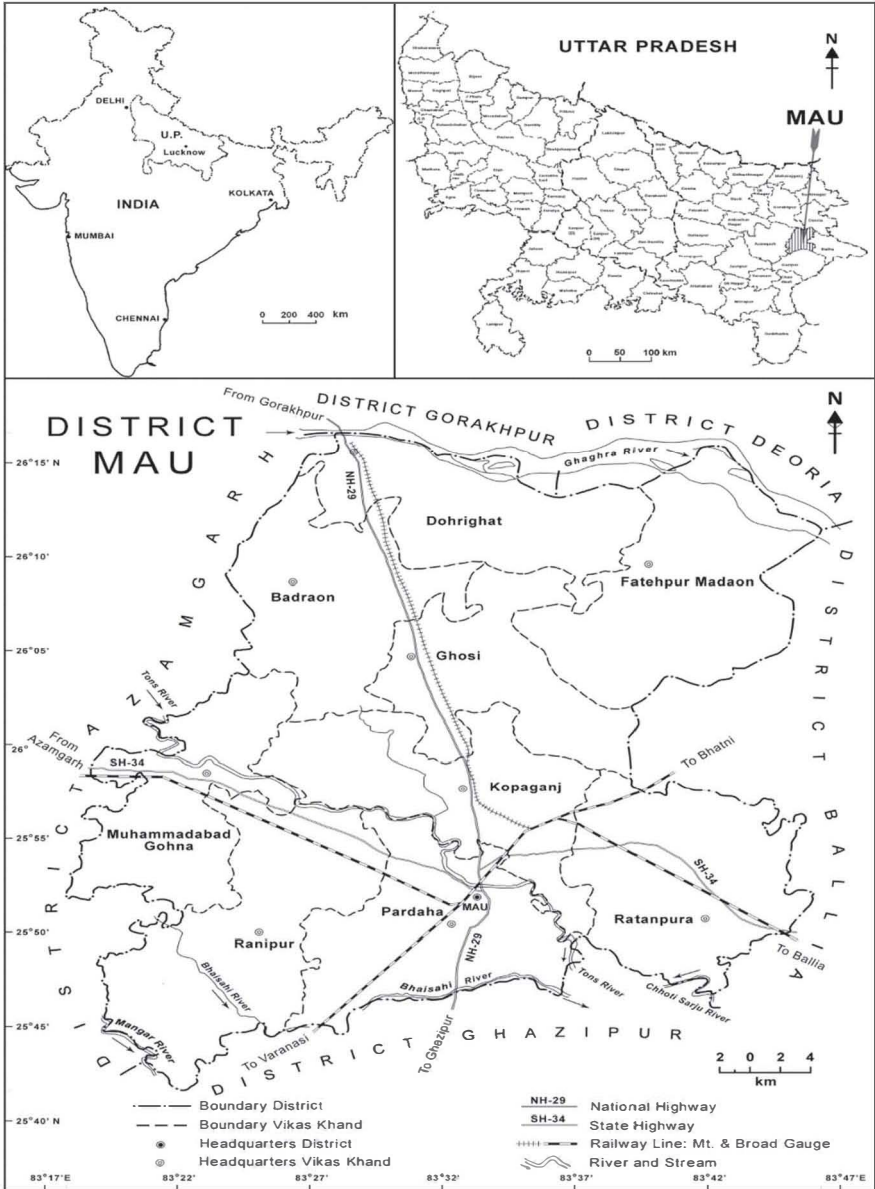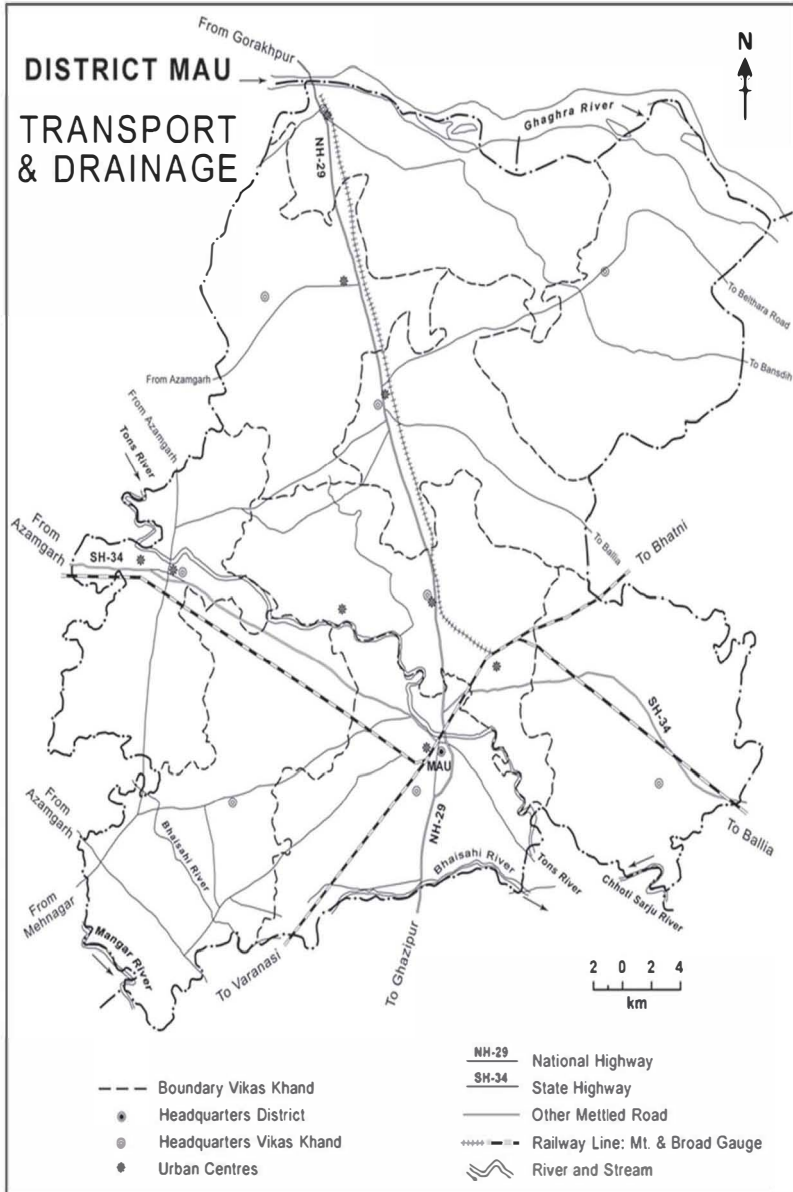
Fig 1.2

After originating from the lofty Himalaya, the River Ghaghara enters the district from the north-west. The mighty Ghaghara River caries one-and-a-half times more water than the River Ganga. Its slope is towards the south-west. During the monsoon season, the volume of water in the River Ghaghara increases very rapidly and inundates an area 15 km from the main channel. Consequently, its erosive power enhances several times and affects a number of village settlements, agricultural fields and other structures. After the recession of a monsoon, it deposits a fine clay mixed with sands in the flooded area. The River Tons is locally known as Tamsa. After originating from a lake in the Ambedkar Nagar district of Uttar Pradesh, it flows from west to south-east by mating the northern boundary of the district headquarters. The Bhainsahi River flows in the southern part of the district, in the Ranipur and Pardaha development blocks, and makes a boundary with district Ghazipur. Beside these major rivers, the Saryu, Udayti and Bhagayi are other rivers which are fed by monsoons and depend entirely on their small catchments for water. Besides these rivers, there are a few lakes, locally called *taal*, in the district with an area of more than 5 km. Among these taals, Pakaditaal, Gambhir Ban taal, Narjataal and Rasoitaal are notable.

Ground water is a significant resource for humankind because it is not only a good source of potable water but also suitable for agriculture and industrial activities. It directly or indirectly feeds plant life and helps in soil formulation. Ground water helps in clustering human activities and settlements. Ground water level can be classified into two categories: permanent and temporary. The temporary ground water level is found up to a few metres from the surface and changes rapidly in different climatic seasons. On the other hand, the permanent ground water level is confined within the hard semi-impermeable rocks at relatively greater depth. The temporary ground water level is generally found at 2–5 m during the rainy season and goes down to 5–9 m or more during the summer season.

1.2.3 Climate

The climate plays a vital role in determining the health status of populations and their activities. In order to understand the climate, the study of temperature, rainfall and atmospheric pressure, as well as direction and velocity of winds, over a long period of time is a must. The elements of climate are largely influenced by latitudinal extent, relief, and distribution of land and water. The climatic condition is one of the predominant factors of the physical environment which influences people's way of life, as well as the socio-economic condition of the area.

In a broader sense, climate determines where a person may live and thrive, what crops he or she may farm, what type of home he or she may appropriately build, what sort of clothing he or she needs and what pests and diseases he or she must combat (Whitbeck 1932). The Mau district has a sub-tropical humid climate with high variation between summer and winter temperatures. The average annual rainfall of the district is 80 cm (Fig 1.3). The district witnesses three distinct monsoon seasons that are as follows:

(i) The dry summer season

The summer season prevails from March to mid-June. It is very hot season. The average maximum temperature in this season ranges from 32°C to 46°C. The highest maximum temperature is recorded in the month of May (46°C). The dry, scorching hot wind locally known as "Loo" blows in this season. The hot westerly wind is very harmful for health as well as for zaid crops. During this season, a few dust storms and thunderstorms occur due to the local heating in this study area. These storms are characterised by light showers, which in turn result in a decrease of temperature giving relief from the heat. These storms damage the seasonal fruits like mango and *jamun*.

(ii) The winter season

The winter season starts with an appreciable fall in temperature and humidity from the first week of November. It is most pleasant weather characterised by clear skies, bright sunshine, light winds and moderate temperatures. In this season, the maximum temperature is 21.63°C and the minimum is 7.64°C. Relative humidity in the month of December is recorded at 75 per cent and in January 77 per cent. The average rainfall of this season amounts to 11 cm.

(iii) The rainy season

The season of general rain starts with the cloud-burst of the summer monsoon by the third week of June. The advent of the monsoon causes a sudden rise in relative humidity, fall in temperature and change of wind direction from westerly to easterly. More than three-fourths of the total rainfall occurs in this season. The major rainfall is recorded by a monsoon coming from the Bay of Bengal in the months of July, August and September. The rest of the year receives little rain for growing crops. The onset of monsoons happens sometimes too early or too late. The irregularity and delays in the burst of the monsoon during this season

cause crop damage, drought and famine, which disturb the whole economic life. The south-west monsoon gradually retreats from the area by the end of September or first week of ●ctober.

Temperature and Rainfall
(2004-2015)

Rainfall in mm

Temperature in °C

Months

▨ Rainfall

—●— Maximum
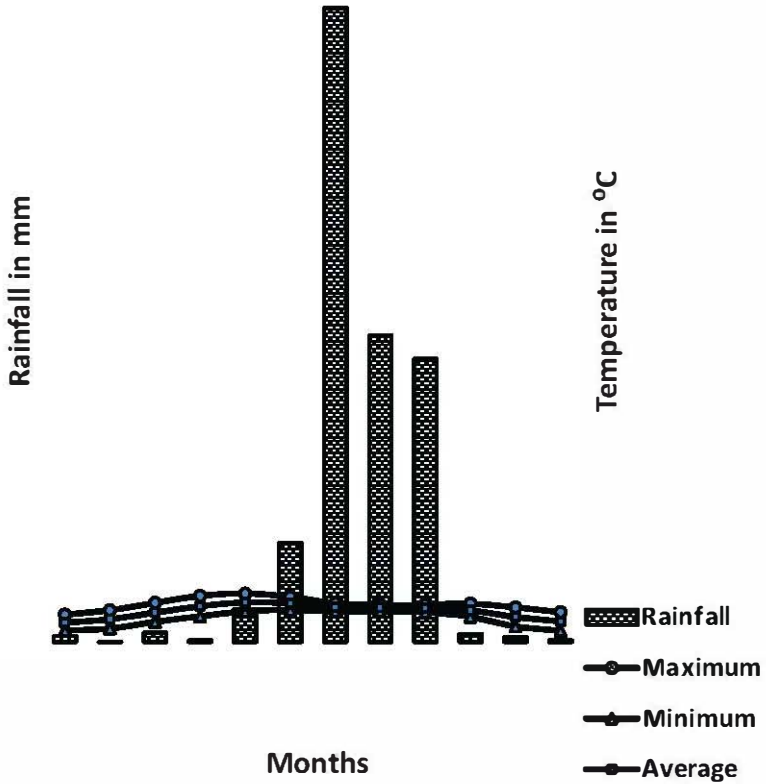
—▲— Minimum

—■— Average

Hythergraph   **Climograph**
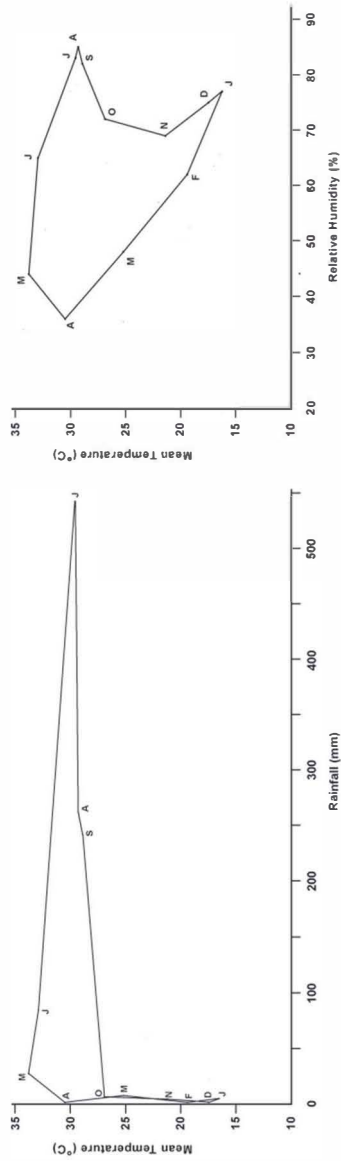
Fig 1.3

Table 1.1: Climatic conditions of Mau district, 2004–2015

Months	Temperature °C			Rainfall (mm)	Average Humidity (per cent)
	Maximum	Minimum	Average		
January	23.3	9.7	16.5	5.13	77
February	27.2	11.5	19.4	0.17	62
March	33.4	17.2	25.2	7.87	48
April	39.4	21.9	30.5	1.42	36
May	41.4	26.1	33.8	28.19	44
June	38.6	27.3	32.9	84.66	65
July	33.2	26.1	29.6	542.09	83
August	31.5	26.1	29.3	262.09	85
September	31.9	25.3	28.9	242.26	82
October	32.7	21.4	26.9	6.73	72
November	29.5	13.3	21.4	4.12	69
December	25.5	9.5	17.5	1.36	75

Source: Office of Agriculture, Collectorate Office, Mau, 2015.

1.2.4 Soil

Soil is an important natural resource of the area under study because more than 75 per cent of the population depends on agriculture for their livelihood. Its impact on population concentration and distribution is clearly visible in the Mau district, where the population is clustered around fertile soil. The study area is covered by alluvial soil varying from clay to sandy loam. It has been deposited by the River Ghaghara and its tributaries and, therefore, contains silt and clay in varying proportions which vary from place to place also. On the basis of minor variation in colour, texture and porosity, as well as the distance from the river, the soil of the district under study may be classified into five types. All types of soil except alkaline soil are fertile and provide a fertile ground for flourishing agriculture—the prime source of livelihood.

1.2.5 Natural vegetation

Mau district in the true sense is devoid of natural vegetation. In fact, unrestricted occupancies from time immemorial and centuries of plough and pastoral culture have reduced the natural vegetation in the district. The tropical dry deciduous type or monsoonal types of vegetation are found in the district but in meagre amounts. Natural vegetation found in small

patches on waste land or vacant places include species of peepal (*Ficus religiosa*), banyan (*Ficus benghalensis*), mahua (*Madhacbutyrucae*), neem (*Azadirachta indica*), babul, *jamun* and mango, while others such as *munj* (*Saccharrummunka*), *kans* (*Saccharrumspoutaneum*), *sarpat* (*Saccharrumofficinarum*) and *khus* (*Vetiveniazizaniouides*) are found in low-lying areas. The planted fruit orchards and groves consist of trees like mango (*Mangiferaindica*), *jamun* (*Eugenia jamalaum*), guava (*Psidium guyava*), mahua, ber (*Zizyphusjujuba*), jackfruit and lemon. Some thorny plants, such as *senhur* and plum bushes, grow on waste or neglected lands, but sometimes farmers grow these plants for fencing the farms or orchards. The significance of trees in the district is mostly for fruits, fuel and timber for construction, but their scanty distribution is not good for the ecological health of the district.

1.2.6 Land use

The utilisation of land is of prime importance for human existence. It involves a relationship that exists between the societies on the one hand, and cultural advancement, resource planning and carrying capacity of the land on the other. Land use stresses the functional role of the land in economic activities at a given time and space. Use of land is conditioned by physical factors like topography, climate, soils and water resources, which set the limits upon the land capabilities of the land, and human factors such as density, occupation, accessibility, socio-economic factors and technological level of the people, which determine the extent to which the physical capacity of land is utilised. Table 1.2 indicates the classification of the land use in the district for the year 2008. It reveals that a large part of the district is used for agricultural purposes. Agricultural land in the district consists of the nearly net sown area (72.51 per cent) and fallow land (9.38 per cent). The net sown area ranges from a minimum of 64.11 per cent in Fatehpur Madaun to a maximum of 81.37 per cent in Ghosi block. Fallow lands are cultivated lands which have been left vacant because of rainfall deficiency or economic reasons from one year to other or as a form of adaptation in the ecosystem. Such use of land varies from a minimum of 5.55 per cent in Muhammadabad Gohana to a maximum of 16.63 per cent in Fatehpur Madaun, closely followed by Ratanpura block (15.05 per cent). The agrarian nature of the society of the study area is vindicated by the fact that 66.72 per cent of the total net sown area is sown more than once (Fig 1.4).

Table 1.2: Land use pattern of Mau district (in percentage)

Block/District	Forest	Area not available for cultivation	Cultivable waste land	Fallow land	Net sown area	Barren land	Permanent pastures and groves	Gross sown area	Area sown more than once (percentage of net sown area)
Doharighat	0.50	17.79	0.78	6.75	68.06	1.45	4.68	171.72	71.72
Ghosi	0.16	7.56	1.24	6.88	81.37	0.94	1.84	174.97	74.97
Badraon	0.18	12.86	0.95	6.91	76.33	0.81	1.97	164.70	64.70
Kopaganj	0.27	13.79	1.25	7.32	73.37	1.38	2.62	163.83	63.83
Fatehpur Madaun	0.43	14.33	1.06	16.63	64.11	0.67	2.78	135.11	35.11
Pardaha	0.63	8.50	2.65	7.14	78.30	1.39	1.39	161.56	61.56
Ratanpura	0.19	16.53	0.99	15.05	65.15	0.63	1.47	197.95	97.95
Muhammadabad Gohana	0.45	11.21	1.42	5.55	79.51	0.63	1.23	167.93	67.93
Ranipur	0.21	9.83	1.60	6.87	79.39	1.02	1.06	171.84	71.84
Mau District	0.33	13.27	1.34	9.38	72.51	1.01	2.16	166.72	66.72

Source: Calculated from District Statistical Handbook, Mau, 2008.
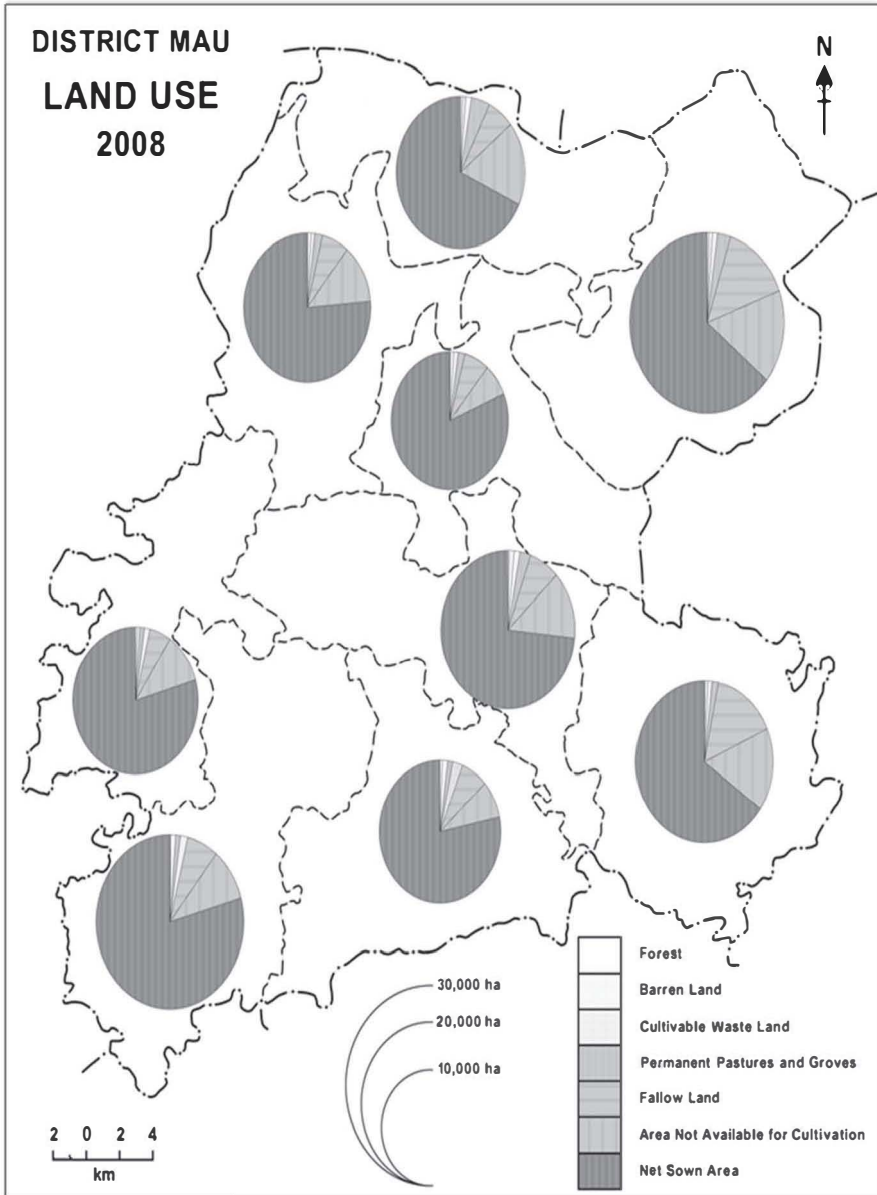
Fig 1.4

Only 1.34 per cent of the land of the district is lying as cultivable waste. Its percentage share varies from a maximum of 2.65 per cent in Pardaha to 0.78 per cent in Doharighat block. Area not available for cultivation comprises land under settlements, water bodies, infrastructure, barren lands and other land which is not suitable for agriculture. Such land constitutes 13.27 per cent of the total area of the study area. The maximum percentage of land under the area not available for cultivation has been found in Doharighat (17.79 per cent), which is closely followed by Ratanpura block (16.53 per cent), whereas the minimum area under this category has been reported in Ghosi (7.56 per cent) and Ranipur blocks (9.83 per cent). Only 1.01 per cent of the land in the study area is lying as barren land, whereas 2.16 per cent of the land is classified under permanent pastures and groves. The maximum cover of barren land is found in Doharighat (1.45 per cent), Pardaha (1.39 per cent) and Kopaganj (1.38 per cent) blocks, while the minimum amount of barren land (0.63 per cent) has been reported in Muhammadabad Gohana and Ratanpura blocks. Land designated permanent pastures and groves varies from a maximum of 4.68 per cent in Doharighat to a minimum of 1.06 per cent in Ranipur block. Forest land is negligible (0.33 per cent) in the study area.

1.3 Statement of problem

Despite growth in health facilities during the previous decades, the country is still lagging behind in several health parameters. In India, the health status of the population varies widely across the states. The state of Uttar Pradesh falls among the BIMARU states of the country in every aspect of development. In Uttar Pradesh, District Mau is among the poorest districts where the health status of the population lags far behind in comparison to the average health status of Uttar Pradesh. Utilisation of available health facilities is one of the most significant determinants of health. The health of a population depends on availability and utilisation of healthcare facilities.

1.4 Objectives

With the aim to analyse the distribution and utilisation of healthcare facilities, the following objectives have been outlined:

1. To assess the spatial pattern of healthcare facilities.
2. To know the utilisation pattern of healthcare facilities.

3. To assess the perception/awareness of the people about the availability of health services at PHCs/CHCs.
4. To outline the associated socio-economic and cultural factors for unequal utilisation of healthcare facilities.
5. To suggest measures for better utilisation of healthcare facilities.

1.5 Research questions

The study begins with the following research questions:

1. What are the physical, socio-economic and demographic determinants of healthcare facilities?
2. How has the availability and accessibility of healthcare facilities varied over distance, time and among individuals of different socio-economic strata?
3. What causes and correlates explain the variance in healthcare utilisation among different sections of the society in Mau district?
4. What has been the perception of users from different sections of the society about healthcare facilities?

1.6 Data base and methodology

The present study is based on both primary and secondary data gathered from different sources. Secondary data have been collected from the district census handbook of the Azamgarh, Ballia and Mau districts, different census series of Uttar Pradesh and substantial information from district headquarters. Data regarding the availability of different types of healthcare services and family welfare facilities at the district hospital, CHCs, PHCs and SCs have been taken from the district statistical handbook of Mau district and from the office of the chief medical and health officer, Mau district. Additionally, reports of five-year plans and various health committees have also been used to carry out the present study. Intensive fieldwork from April to September 2015 has been conducted to collect the primary data. The primary data have been collected through a sample survey of 680 households selected from thirty-one villages and two urban centres of Mau district. The sample villages have been selected using the stratified purposive sampling technique. With this technique, first of all the entire study area has been divided into 45 grids of 6x6 km each (Fig 1.5). The mean distance in this becomes the ideal distance that should be for a person to reach PHC. Further taking the average rural density of the district the total population in a grid comes close

DISTRICT MAU
LOCATION OF SAMPLE SITE
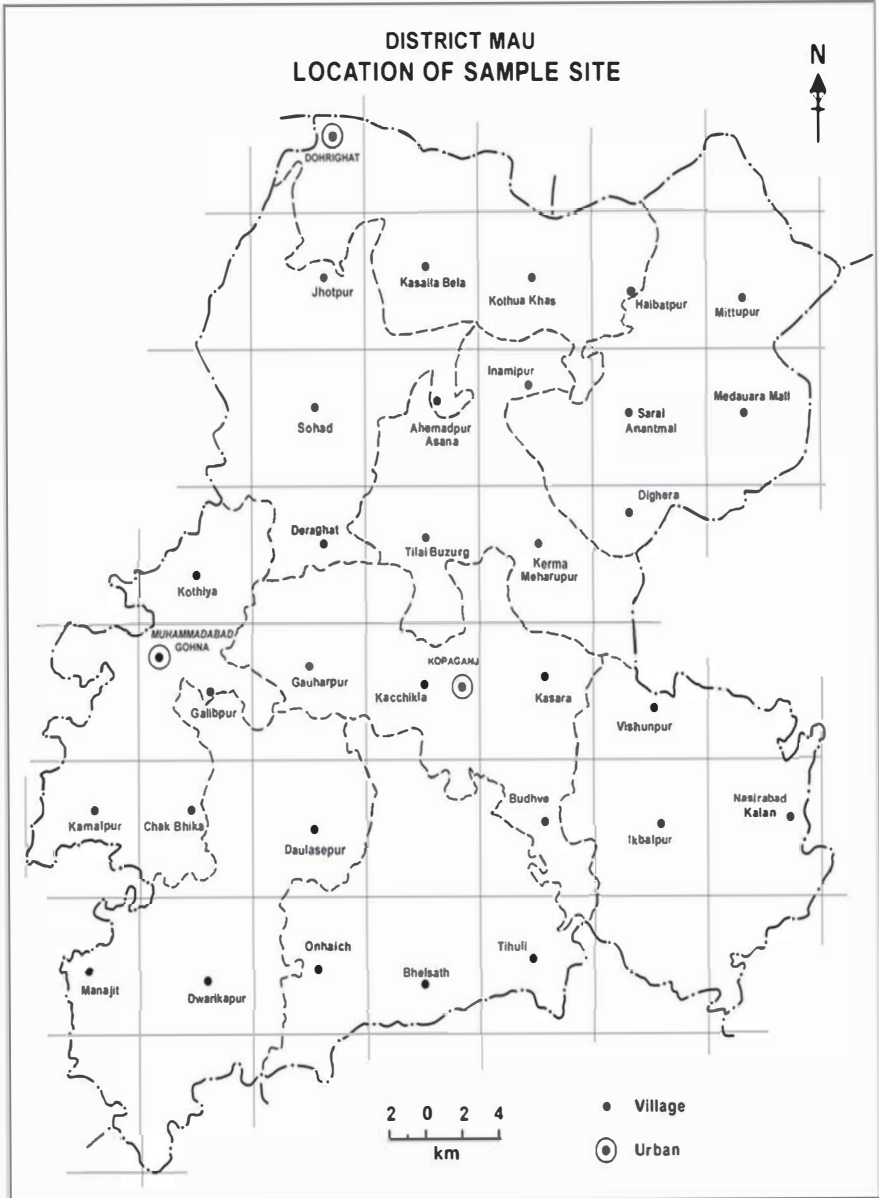
Fig 1.5

to the normative population of 30,000 per PHC. The limitation of such generalization is that it presumes that population is uniformly distributed within the district. The population map of the district does not show much deviation to this presumption, so the grid size of 6x6 km is taken into consideration. Only those grids have been considered for village selections which completely lie in the area under study. Among all the grids only 31 grids completely fall in the area under study.

Further, from each grid one village has been selected on the basis of its population and socio-demographic and economic characteristics of population.

While selecting villages, it was taken into account that the sample represents the physical, social, economic, cultural and religious characteristics of the study area. Accordingly, at least one village has been selected in such a way as to comprise more than 80 per cent Muslims, scheduled castes and other backward castes households respectively. From each selected village, on the basis of age, caste, religion, education, occupation, and income; 20 households have been selected. From each household one eligible respondent, i.e., head or educated member of the family has been selected for in-depth interview. In this way, 620 respondents have been selected from the rural areas.

Only those urban centres which serve as block headquarters have been considered for the sample study. Accordingly, three urban centres, namely Doharighat, Kopaganj and Muhammadabad Gohana, have been selected. Further, twenty households have been selected from each urban centre. In this way, sixty households have been selected from urban areas. Altogether, a total of 680 respondents have been selected from various parts of the study area.

Techniques and tools are the logical approach for obtaining and presenting information about a specific problem to be studied. In the present study, both techniques of research, i.e., statistical and qualitative, have been applied to answer the research questions of the study. Using the scientific technique, after having formulated the research problem, objectives, hypotheses, and conceptual and operational definitions, pertinent secondary and primary data have been collected and analysed. With this technique, primary data have been collected through intensive fieldwork with the help of a structured questionnaire/schedule. The information was collected via a questionnaire from 680 respondents aged 20–60 from thirty-one villages and three urban centres of the district.

The primary and secondary data have been analysed and results have been mapped using software like Adobe Photoshop CS2, Photoscape 3.3, Microsoft Office 2007 and SPSS 16.0. Logistic regression analysis has been also applied to assess the association between various socio-economic determinants and utilisation of healthcare facilities.

1.7 Relevance of the study

The present study is aimed at mapping the distribution of healthcare facilities and their utilisation pattern in the district of Mau. The inter-relation of socio-economic conditions of different segments of the society with the nature and pattern of their health needs and their relationship with available healthcare facilities remains a significant area of exploration. It highlights the utilisation pattern of healthcare facilities at the micro level and reveals various socio-economic and administrative problems affecting utilisation and availability of healthcare facilities in the study area. It further provides insight, though indirectly, into the understanding of inherent socio-economic disparities and their consequences as unequal utilisation of healthcare facilities in different sections of society.

India is a country of villages where about 69 per cent of the population still resides in rural areas (Census 2011). Though healthcare facilities in India have undergone a change on an unprecedented scale, a substantial proportion of the population is unable to receive even minimally adequate healthcare at needed times. Unequal distribution of healthcare facilities, low income and high cost of medical care are major constraints in accessibility and affordability of healthcare facilities. Rural populations and the urban poor have less ability to pay for needed health services. The case is similar for aged persons, young children and women whose health needs are of very specialised nature (Mustard et al. 1998).

As the importance of health in growth and development is apparent, total expenditure on health facilities has increased several times since independence. A system of healthcare centres, PHCs, CHCs, etc. has been developed. A number of disease-specific schemes like the National Malaria Eradication Programme (NMEP), National Tuberculosis Control Programme (NTCP) and National Leprosy Eradication Programme (NLEP), schemes targeting specific groups, such as the Mother and Child Health Scheme and National Health Insurance Scheme for labourers of below-poverty-level (BPL) families, and the National Rural Health Mission (NRHM) have been introduced. Despite all this, India's progress in the health sector is not better than dismal.

The state of Uttar Pradesh, along with other poor states, is far behind even the sub-Saharan countries in many health indicators. Consequently, it becomes necessary to carry out descriptive, empirical and community-based studies of such regions for exploring ground realities to access not only the pattern and availability of healthcare facilities but also their efficiency of providing health services to the community. The studies are to be community-oriented because ultimately it is the people/society who remain the main stakeholders. Therefore, these studies should also focus on utilisation of available healthcare facilities emphasising peoples' perception of healthcare facilities as necessary. Changes in healthcare facilities could be brought about at the bottom level for enhancing their efficiency and utilisation to meet future health needs of the people. In this context, district Mau of eastern Uttar Pradesh has been chosen for the study of healthcare facilities and their utilisation, as this district is said to be the most viable unit for such studies (Ahmad and Shamim 2004). The study also brings out the perception of the user group and the bottlenecks that construct certain perceptions of the government healthcare institutions.

1.8 Limitations of the research

Every research has certain limitations, and so it is with the present study. The major limitation of the study is the non-availability of secondary data pertaining to utilisation of healthcare facilities. This restricts the analysis of patterns, as the analysis is based on a small sample size and sample studies have their limitations, and all those limitations apply to the present study from selection of sample to sample bias. The population data of utilisation would have been better with a larger sample size. Another limitation relates to the nature of disease and treatment. The study is based on reported treatment and disease data and not on recorded data on disease and treatment. The limited knowledge of the individual and the limitation of selected memories remain constraints in this study. However, these limitations do indicate the inadequacy of having a data base on the disease pattern and utilisation pattern of healthcare services in India that needs to be improved.

1.9 Organisation of chapters

The book is organised into five chapters along with a summary and conclusions. Chapter one introduces the research theme, its relevance, objectives, research questions, hypothesis, methodology and the basic characteristics of the study areas. In chapter two, the conceptual and

theoretical framework of healthcare facilities is discussed. This chapter throws light on healthcare facilities of all kinds in India and discusses variation in their availability, accessibility and affordability. Chapter three analyses the distribution of healthcare facilities focusing on their spatio-temporal change, rural-urban variations and availabilities of healthcare facilities across nine blocks of the district according to population distribution. Chapter four discusses the utilisation of healthcare services and also tries to ascertain the relative significance of socio-economic factors affecting treatment behaviour. Chapter five highlights peoples' perception of healthcare facilities, and their awareness and attitudes about different healthcare programmes in study area. Finally, conclusions and suggestions are given.

CHAPTER 2

HEALTHCARE FACILITIES:
CONCEPTUAL FRAMEWORK

Health is clearly not the mere absence of disease. Good health confers on a person or group the freedom from illness and the ability to realise one's potential. Health in a broader sense is understood as the indispensable basis for defining the individual's sense of well-being. The health of populations, on the other hand, is largely dependent on the larger socio-economic and political decisions and is a distinct key issue in public policy discourse in every mature society. It includes its cultural understanding of ill health and well-being, extent of socio-economic disparities, reach of health services, quality and costs of care, and current biomedical understanding about health and illness.

2.1 Concept of health

Health is fundamental to each individual and also to each community as a whole. The paramount importance and significance of health is contained in the age-old statement *Sharira Madhyam Kalu Dharma Sadhanam*, i.e., a healthy body is the foremost important/essential tool that facilitates performance of duties of life. Since time immemorial, every civilisation has been incessantly striving and interacting with the bio-physical, anthropo-socio-cultural parameters to nurture human resources. As a result, distinct systems of health and medicine emerged, viz., the Indian (the indigenous Ayurveda, Siddha and Unani), Chinese, Egyptian, homeopathy, etc. The Industrial Revolution in England in the 18th century gave rise to several environmental problems which in turn led to the multiple levels of developments in the conception of "public health" and its practices.

Health is also considered a concept of social justice and is a common theme in most cultures (WHO 1984). In fact, all communities have their own concepts of health as a part of their cultures. Its definition varies in different subjects, but health is better understood, lived and enjoyed than

defined. However, one widely acceptable definition of health is that given by the WHO in the preamble of its constitution: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease" (WHO 1948). In recent years, this statement has been amplified to include the ability to lead a "socially and economically productive life" (WHO1986). Through this definition, the WHO has helped to move health thinking beyond a limited, biomedical and pathology-based perspective to the more positive domain of "well-being". With explicit inclusion of mental and social dimensions of well-being, WHO has radically expanded the scope of health and, by extension, the role and responsibility of health professionals and institutions and their relationship to the larger society.

The WHO definition also highlights the importance of health promotion, defined as "the process of enabling people to increase control over and to improve their health". For this, "an individual or group must be able to identify and realise aspirations, to satisfy needs, and to change or cope with the environment" (*Ottawa Charter for Health Promotion* 1986).The societal dimensions of this effort were already noted in the declaration of Alma-Ata (1978), which described health as a "social goal whose realisation requires the action of many other social and economic sectors in addition to the health sector".

2.2 Concept of healthcare

The state of health of an individual, or group, or community or population largely depends on the status of available healthcare facilities. However, the availability is only one pre-condition, because there is need for accessibility as well as affordability of available healthcare facilities. Healthcare in a broader sense implies not only the care of the acutely and chronically ill but also rehabilitation, health maintenance, prevention of diseases, and disability and health education. Healthcare in this sense covers not merely medical care but also all aspects of preventive care. It cannot be limited to care rendered by or financed out of public expenditure, i.e., within the government sector alone, but also includes self-care and care paid for by private citizens to get over ill health. Healthcare is widely recognised as a public good. Its demand and supply cannot, therefore, be left to be regulated solely by the market, nor can it be established on considerations of utility maximising conduct alone.

For making an ideal healthcare system, R. Srinivisan of the Planning Commission in "Healthcare in India—Vision 2020" suggests four criteria:

1. Universal access and access to an adequate level without excessive burden.
2. Fair distribution of financial costs for access and fair distribution of burden in rationing care and capacity and a constant search for improvement to a more just system.
3. Training providers for competence in empathy and accountability, pursuit of quality care and cost-effective use of the results of relevant research.
4. Giving special attention to vulnerable groups such as children, women, disabled persons and the aged.

The healthcare system, in this light, ought to be built on the following principles and values in order to ensure effective delivery of services and maximum utilisation of healthcare:

1. Equitable distribution.
2. Universal access to care and coverage on the basis of need.
3. Community participation.
4. Inter-sectoral coordination and convergence of different programmes.
5. Appropriate health technology.
6. Monitoring and evaluation.

Equity in health and healthcare has been a long-term guiding principle of health policy in India, with a commitment to provide for the needs of individuals who are poor and underprivileged. The need for universal comprehensive care was reiterated in the National Health Policies of 1983 and 2002. However, implementation of policy commitments to equity in healthcare remains a challenge because of India's institutional and implementation capabilities and is also a challenge for the global health community (Gwatkin, 2000). In 2009, the Government of India drafted a National Health Bill for the legal system to recognise the right to health and right to healthcare with a stated recognition to address the social determinants of health. Health is a key driver of development. In a welfare country like India, the state needs to play a major role in providing the basic healthcare service to the public in general and the poor and the needy in particular. Theoretically, once the basic healthcare services reach all the strata of the society, public health is to shift its focus from disease prevention to health promotion. To achieve all these goals even partially, the government needs to develop adequate healthcare facilities.

In case of healthcare, the term "facilities" encompasses wider meaning than mere physical infrastructure because it is an important indicator for understanding the healthcare delivery provisions and mechanisms in any region. The facilities include health institutions and hospitals, training centres, health workers, different supporting machines, etc. It also signifies the investments and priority accorded to developing the facilities in the public and private sector. Health facilities can be broadly divided into two categories: first, facilities promoting health education, including medical and nursing colleges and institutions; and second, service facilities in health, including human resources (doctors, nurses, paramedical forces, etc.) for health, and details of allopathic, Ayurvedic and homeopathic hospitals, blood banks, SCs, PHCs, CHCs and specialised hospitals.

2.3 Factors affecting healthcare

Conceptually, health is a dynamic condition. The main purpose of healthcare is proper development of health and consolidation of manpower. A condition free from disease is not the only sign of sound health, but a person should be healthy on physical and mental grounds. There are many factors affecting healthcare which have not yet been fully explored in many countries, including India. A variety of factors have been identified as directly or indirectly responsible for influencing healthcare. These factors include availability, accessibility, affordability and utilisation of healthcare facilities:

2.3.1 Factors affecting availability of healthcare

Availability and proper distribution of medical and public health facilities in the country is one of the significant determining factors of the public health. In the places where there is a lack of public health facilities and cleanliness, people suffer from various diseases and their health standard is very low. Availability of healthcare facilities is primarily governed by the existing health policy and financial resources. However, to a great extent, level of education and awareness at community level does also affect availability of healthcare by influencing the distributive aspect of healthcare facilities at the micro level. Besides, absenteeism of healthcare professionals due to physical distance, lack of transport and connectivity, poor prospects of income and other factors aggravate the problem by making available physical health infrastructures meaningless in remote areas.

2.3.2 Factors affecting accessibility of healthcare

Accessibility of healthcare facilities enhances their utilisation. However, physical distance and hindrances is one of the significant factors in the determination of accessibility of healthcare facilities. Physical access is a major barrier to preventive and curative health services for India's nearly 70 per cent rural population. Since distance to facilities is a key determinant for access, outreach programmes or good transport, roads and communication networks are important for reaching disadvantaged and physically isolated groups, such as the scheduled tribes (STs). Distance remains a greater barrier for women than for men (Vissandjee et al. 1997). Therefore, the distance factor has to be lessened to make health services more effective and accessible. However, physical access of services does not assure their full use since the costs associated with seeking care also preclude uptake, even when services are available.

Accessibility is also influenced by several socio-economic factors like income, occupation, size and type of households, education and women's autonomy. However, these socio-economic factors do not act in isolation; rather, they are inter-linked and affect each other. Nuclear and joint families possess different views in terms of access to healthcare facilities. Number of household members has an inverse relationship with the expenditure and care on health. The majority of joint families are characterised by a large number of family members, usually unemployed, who share the limited income of one or two earning family members. Besides, decision-making rests in the hands of the head of the family. Therefore, low per-capita financial resources in joint families greatly affect affordability to bear the high cost of treatment for each family member. Though the joint family system has been weakening with the rise in economic independence of the family members, it still has a negative correlation with individual autonomy, especially for females. In joint families, women have a limited access to medical facilities due to their low level of autonomy in decision-making processes and limited financial resources. They cannot move outside their houses without prior permission of the head of household, who acts as chief decision-maker in day-to-day activities. But in nuclear families, women's autonomy in decision-making processes and financial matters increases, which in turn enhances their access to healthcare facilities. Likewise, education, income and other socio-economic factors also affect the access to healthcare.

2.3.3 Factors affecting affordability of healthcare

Affordability of healthcare is linked with people's social and economic status, which has a direct relationship with healthy life. If socio-economic conditions are suitable and better - if people are well-off/rich/above subsistence and able to afford to spend money on health and cultural values - the health of the common people is sure to be sound. Standard of life is an important deciding factor in utilisation of public health facilities. Per-capita income is a reliable variable of standard of life; it is calculated by dividing the total income by the total population. Therefore, the country, which has a low per-capita income, will have poor people and their standard of life will be low. Low standard of life will keep the people from fulfilling the required necessity of their lives. Their health conditions will remain poor, and their capability to work and work performance will decline, which leads to low productivity and low contribution to the national income. Goel (2002) has given a simple description of trap of poverty in the following way: "Adversity and poverty were positioned in the same cycle. Men and women were sick because they were poor. They become poor because they were sick and because of being poor, they become sicker." Hence, a vicious cycle arises wherein poverty and low standard of life leads to generation of adverse conditions for attaining physical, mental and environmental well-being. Pervasive adversity and lack of physical and mental health and environmental well-being together affects capability to work and production, making poverty acute, persistent and hard to get rid of. As the study area is an almost totally rural and agrarian society, the standard of living is not very high and people are still deprived of even certain basic social facilities, and health is one among these.

2.3.4 Factors affecting utilisation of healthcare

Utilisation of healthcare facilities is determined and affected by several factors, including education, income and other socio-economic factors. Besides these, a critical shortage of health personnel, inadequate incentives, poor working conditions, lack of transparency in posting of doctors in rural areas, absenteeism, long waits, inconvenient clinic hours, poor outreach, time of service, insensitivity to local needs, and inadequate planning, management and monitoring of services/facilities appear to be the other main reasons for low levels of utilisation. These organisational and policy lacunae affect the quality of health services and create negative mental perceptions among patients of public healthcare facilities. The

increasing use of private health facilities despite higher medicinal and diagnostic costs shows the people's growing lack of trust in the public system.

An important reason for the low standard of health in developing countries is conservative and unhealthy social circumstances and cultural values. These factors produce an aversion to any foreign/new healthcare system. Consequently, even if healthcare facilities are available, their utilisation gets affected such that people do not use them due to cultural reasons. Religion, caste, income, house type, education and occupation are among the main socio-economic variables which have a direct impact on utilisation of healthcare facilities (Bhagat 2012).

Level of education and awareness is one of the most significant factors affecting utilisation of healthcare facilities. On the one hand, it encourages people to go for preventive measures to keep disease at bay. On the other hand, it ascertains the proper utilisation of curative measures during periods of illness in the public health facilities. Since the level of educational attainment is low, the people will not be aware of health schemes and facilities and they will not be eager for health safety. Owing to the lack of education, one is not able to get sufficient information even about ongoing health schemes and flagship programmes. Consequently, she/he is not able to reap the benefits of available health facilities. This is also affected by the prevailing social and religious superstitions. This leads to the low health level. Lack of proper education is also responsible for the low health level in India. Many health schemes in India fail because the people for whose benefit they are made are not able to read and understand these schemes. Nearly 60 per cent of people in the study area are not aware of health schemes because there is a low literacy rate, which is responsible for poor health. Therefore, proper outreach programmes are needed till the people get educated and aware enough to harness the plethora of health schemes and programmes running in the country by the government agencies.

2.3.5 Other reasons

Other factors responsible for the low standard of health are as follows:

1. The *purdah* system, which refers in this study to the confinement of women within the household and their not interacting with male health providers, among the women of rural areas and the women of Muslim communities.

2. Lack of transparency in the public health system.
3. Low availability of female doctors.
4. High number of "quacks".
5. Irregularity in running of the health scheme.
6. Lack of public participation.
7. Poor integration of traditional and modern medical systems, etc.
8. Concentration of facilities in urban areas.
9. Lack of sustainable, high-quality human resources for health with a variety of skills, particularly in rural areas.
10. Poor quality of healthcare facilities, which is further affected by high rates of absenteeism among health workers (more than 40 per cent in some studies) (Banerjee et al. 2003; Rao et al. 2011); restrictions in opening hours; insufficient availability of drugs and other supplies (Chaudhury et al. 2006); poor-quality work environments; and inadequate training and knowledge (Das and Hammer 2007). Poor quality of work environment in health institutions, along with their considerable distance from nearby urban centres, keep doctors and other staff members away, leading to greater rates of absenteeism in health institutions. Inadequate and poor availability of cheap and free drugs and diagnostic check-ups and a dearth of well-trained health personnel and inadequate training to working staff members significantly affects patients' perception of public healthcare facilities.

All these factors together affect healthcare facilities and their utilisation.

2.4 Factors affecting the healthcare system

There are several factors and drawbacks in health system which affect the utilisation of healthcare facilities in one way or another. The conceptualisation and planning of all programmes is centralised instead of decentralised using locally relevant strategies. The approach towards disease control and prevention is fragmented and disease-specific rather than comprehensive. This leads to vertical programmes for each and every disease. These vertical programmes are technology-centric and work in isolation of each other. The provision of infrastructure is based on population norms rather than habitations, leading to issues of accessibility, acceptability and utilisation. Inadequate resources also lead to a lack of client conveniences and non-availability of essential consumables and non-consumables. The gap between requirement and availability of human resources at various levels of healthcare is wide, and where they are available, the patient-

provider interactions are marked with many problems in addition to waiting time (opportunity cost) for consultations/treatments. Efficient allocation of resources between primary, secondary and tertiary care, and geographical regions, is crucial to ensure the availability of appropriate and adequately resourced health services.

In India, this challenge is compounded by low public financing with substantial variation between states (Shiva Kumar et al. 2011). India's total expenditure on health was estimated to be 4.13 per cent of the gross domestic product (GDP) in 2008–09, of which the public expenditure on health was estimated to be 1.10 per cent. Private expenditures on health have remained high during the previous decade (MoHFW 2009). The system lacks a real and working process of monitoring, evaluation and feedback. There is no incentive for those who work well, nor any check on those who do not work at all. Quality assurance at all levels is not adhered to due to lacunae in implementation. This results in semi-used or dysfunctional health infrastructure. There is a lack of convergence with other key areas affecting health as the system has been unable to mobilise action in areas of safe water, sanitation, hygiene and nutrition. Despite constraints on human resources, practitioners of Indian systems of medicine (ISM), registered medical practitioners (RMPs) and other locally available human resources have not been adequately mobilised and integrated in the system.

2.5 Development and growth of healthcare facilities in India

During British rule in India, the health system based on indigenous medicines (Ayurvedic and Unani) declined sharply, and there are three plausible reasons for this: the disunity of indigenous practitioners, i.e., communal division of Ayurvedic and Unani practitioners; the active policy of the British rule to promote allopathic medicines; and the perception by clients that indigenous treatments were less effective than the allopathic treatment (Jeffery 1988). However, the allopathic medicine system promoted by the active state policy was in its infantile stage and could only develop in major urban areas of the country. The diverse and vast rural areas remained almost untouched by the healthcare facilities and services. After independence, healthcare facilities and services developed gradually across the country through implementation of the recommendations of several committees and five-year plan documents. The major

recommendations of some of the major National Health Committees are as follows:

2.5.1 Bhore Committee (1946)

This committee, known as the Health Survey and Development Committee, was appointed in 1943 with Sir Joseph Bhore as its chairman. It made comprehensive recommendations, based on principles of universality and equity, for remodelling health services in India. Some of the major recommendations were:

1. Integration of preventive and curative services at all administrative levels.
2. Development of a strong basic health services structure at the primary level with referral linkages in two stages:
   a. Short-term measure—one PHC as suggested for a population of 40,000, and a SC envisaged to provide support to the PHC and to coordinate and supervise its functioning.
   b. A long-term programme (also called the "3 million plan") of setting up primary health units with seventy-five-bed hospitals for each 10,000 to 20,000 people and secondary units with 650-bed hospitals, again, regionalised around district hospitals with 2,500 beds.
3. Major changes in medical education.
4. Explicit role of "the state" in developing the health system in the country.
5. Increase in investment in the pharmaceutical sector to develop indigenous capabilities and reduce excessive reliance on multi-national companies.
6. Community participation and cooperative efforts to promote preventive and curative health work; this was considered important in order to achieve a vibrant health system.
7. Medical benefits would have to be supplied free to all at the point of delivery, and those who could afford to pay should channel contributions through the mechanism of taxation.

2.5.2 Mudaliar Committee (1962)

This committee, also known as the Health Survey and Planning Committee, was appointed under the chairmanship of Dr. A.L. Mudaliar to assess the performance in the health sector since the submission of the

Bhore Committee report. This committee found the conditions of health facilities to be unsatisfactory and suggested that the PHC already established should be strengthened before new ones are opened. Further, it suggested strengthening of sub-divisional and district hospitals, provision of preventive and promoting services (besides curative ones) at the PHC, and the establishment of an All-India Health Service replacing the erstwhile Indian Medical Service. Hence, the concern of the Mudaliar Committee was limited to the development of the health services infrastructure and the healthcare at the primary level.

2.5.3 Chadha Committee (1963)

This committee under chairmanship of Dr. M.S. Chadha was constituted to advise on the necessary arrangements for the maintenance phase of the NMEP. The committee suggested that the vigilance activity in the NMEP should be carried out by basic health workers (one per 10,000 people), who would function as multipurpose workers and would perform, in addition to malaria work, the duties of family planning and vital statistics data collection under the supervision of family planning health assistants. The recommendations of the Chadha Committee, when implemented, were found to be impracticable because the basic health workers, with their multiple functions, could do justice neither to malaria work nor to family planning work. Consequently, the Mukherjee Committee appointed to review the performance of the family planning programme in 1965 recommended the separation of health staff from the family planning programme.

2.5.4 Mukherjee Committee (1966)

The multiple activities of the mass programmes like family planning, smallpox, leprosy, trachoma and NMEP (maintenance phase) were making it difficult for the states to undertake these effectively because of a shortage of funds. A committee of state health secretaries, headed by the Union Health Secretary, Shri Mukherjee, was set up to look into this problem. The committee worked out the details of the Basic Health Service which should be provided at the block level, and some consequential strengthening required at higher levels of administration.

2.5.5 Jungalwalla Committee (1967)

This committee, popularly known as the "Committee on Integration of Health Services", looked into various problems related to integration of health services, abolition of private practice by doctors in government services and the service conditions of doctors.

2.5.6 Kartar Singh Committee (1973)

This committee on "multipurpose workers under Health and Family Planning" was constituted to form a framework for integration of health and medical services at peripheral and supervisory levels. Its main recommendations were:

1. Various categories of peripheral workers should be amalgamated into a single cadre of multipurpose workers (male and female).
2. One PHC should cover a population of 50,000. It should be divided into sixteen SCs (one for every 3,000 to 3,500 people), each to be staffed by a male and a female health worker.

2.5.7 Shrivastav Committee (1975)

The Shrivastav Committee was set up in 1974 as a Group on Medical Education and Support Manpower to determine steps needed to:

1. Reorient medical education in accordance with national needs and priorities.
2. Develop a curriculum for health assistants who were to function as a link between medical officers and multipurpose workers (MPWs). It recommended the:
   a) Creation of paraprofessional and semi-professional health workers from within the community itself.
   b) Establishment of cadres of health workers, namely multipurpose health workers and health assistants, between the community-level workers and doctors at PHCs.
   c) Development of a Referral Services Complex.
   d) Establishment of a Medical and Health Education Commission for planning and implementing the reforms needed in health and medical education according to the University Grants Commission.

The Bajaj Committee in 1986 evaluated and assessed health manpower planning, production and management. The Mashelkar Committee (2003)

recommended intensive research into the pharmaceutical industry, price cuts and easy availability of essential and generic high-quality drugs, and clinical trials, in order to cut the extra financial burden on the poor and marginalised sections of the society. Health policies, priorities and recommendations of different health committees have been outlined in the five-year plans which were developed as part of India's centralised planning and development strategy. A brief account of the five-year plans in regard to health is as follows:

2.5.8 First Five Year Plan (1951–56)

At the time of the formulation of the First Five Year Plan, the health status of people was very poor and alarming due to the inadequacy of the health infrastructure, unsanitary conditions, poor nutrition, widespread communicable and lethal diseases, and lack of general and health education. Infant and maternal mortality rates were also high. In light of this background, the First Five Year Plan aimed at:

1. Provision of water supply and sanitation.
2. Control of malaria.
3. Preventive healthcare for the rural population through health units and mobile units.
4. Health services for mothers and children.
5. Education, training and health education.
6. Self-sufficiency in drugs and equipment.
7. Family planning and population control.

Under this plan, PHCs were established as per the recommendation of the Bhore Committee along with vertical programmes to curb communicable diseases. However, in the plan, no specific fund allocations were made to achieve specific objectives.

2.5.9 Second Five Year Plan (1956–61)

The efforts that commenced in the first plan continued during the second plan period. The proclaimed aims of health programmes during the second plan were to expand the existing health services, to bring them within the reach of all the people and to promote a progressive improvement in the level of national health. The specific objectives identified were as follows:

1. Provision of adequate institutional facilities to serve as a base for organising health services.

2. Development of technical manpower.
3. Control of communicable diseases.
4. Improvement of environmental sanitation.
5. Family planning.

2.5.10 Third Five Year Plan (1961–66)

The broad objective of the Third Five Year Plan was to bring about progressive improvement in the health of the people by ensuring a certain minimum level of physical well-being and to create conditions favourable to greater efficiency and production in continuation of the programmes initiated during the earlier plans. However, there was a shift in focus from preventive health services to family planning. As a result, the allocated fund was largely used for family planning purposes and the basic healthcare infrastructures remained at the existing level, though the population increased. The broad objectives of the Third Plan in regard to health were listed as follows:

1. Control of communicable diseases through vertical or mass campaigns.
2. Improvement of environmental hygiene in rural and urban areas.
3. Improving facilities for training of medical and health personnel.
4. Provision of adequate institutional facilities.
5. Family welfare and maternal and child health services.
6. Health education and nutrition.

2.5.11 Fourth Five Year Plan (1969–74)

During the Fourth Plan, efforts were made to provide an effective base for health services in rural areas by strengthening the PHCs. The vertical campaigns or mass campaign approach (Gonzalez 1965) against communicable diseases—malaria, tuberculosis, leprosy, trachoma, smallpox, etc.—were further intensified. The major objectives of the Fourth Plan were:

1. Strengthening the PHCs and sub-divisional and district hospitals.
2. The integration and implementation of programmes relating to control of communicable diseases.
3. Training of health functionaries and achievement of self-sufficiency in drug and equipment manufacturing.

2.5.12 Fifth Five Year Plan (1974–78)

The Fifth Five Year Plan admitted the shortfalls of the earlier plans in the health sector, especially in relation to disparities in availability of the facilities for healthcare, preventive medicines, medical treatment, family planning and other areas, disparities between the rural and urban areas, and also the slow pace of the establishment of PHCs and SCs in the rural areas. Therefore, the Fifth Five Year Plan stressed the improvement of the healthcare services in the rural areas, and particularly it considered the provision of health facilities as a major component of the Minimum Needs Programme (MNP). The objectives of the Fifth Plan in regards to health were as follows:

1. Expanding the network of medical facilities and health services in the country.
2. Increasing accessibility of health services and medical facilities in rural areas.
3. Correction of disparities in health services between urban and rural areas.
4. Intensification of national programmes for eradication of communicable diseases, especially malaria and smallpox.
5. Placing greater stress on provision of an adequate supply of potable water and the disposal of wastes.
6. Improving the quality of health services by securing the availability of trained medical and paramedical personnel at each PHC.
7. Improving the quality of, and providing the necessary rural orientation to, medical and paramedical personnel.

In order to integrate and strengthen the existing rural health network under the MNP, one PHC among the existing four PHCs was upgraded to a CHC with the basic objectives of:

(i) providing routine as well as specialised healthcare services in medicine, surgery, paediatrics, and obstetrics and gynaecology;
(ii) making adequate provisions for emergencies and cases of acute illness referred from the neighbouring PHCs;
(iii) providing relief to already overcrowded district and other referral hospitals; and
(iv) bringing healthcare within the reach of the people residing in the rural areas.

2.5.13 Sixth Five Year Plan (1980–85)

The Sixth Five Year Plan sought to intensify the Minimum Need Programme, with research concerned more with evolving alternative models of healthcare on the basis of the Srivastava Committee report. The following were envisaged as the guiding principles for the preparation of the health components within the Sixth Five Year Plan:

1. Better healthcare services must be provided for the rural poor.
2. A community-based programme of healthcare and medical services should be launched on a priority basis.
3. No linear expansion of curative specialisation services in urban areas was to be generally permitted.

2.5.14 Seventh Five Year Plan (1985–90)

The Seventh Five Year Plan placed much emphasis on improving the health status of the population, including standard of living and development of human resources. The Planning Commission considered the following points for development of healthcare facilities as well as human resources:

1. The provision of primary healthcare facilities, particularly in rural areas.
2. Drug policy.
3. Control programme for major communicable and non-communicable diseases.
4. Facilities for medical and paramedical education and training.
5. The provision of family planning, MCH immunisation and related services.

2.5.15 Eighth Five Year Plan (1992–97)

It is for the sake of human development that health and population control are listed as two of the six priority objectives of this plan. Heath facilities were required to reach the entire population by the end of the Eighth Plan. The Health for All (HFA) paradigm had to take into account not only high-risk vulnerable groups, i.e., mothers and children, but had to also focus sharply on the underprivileged segments. This could only be achieved through emphasising the community-based health system reflected with its planning, with a population of about 30,000 as a norm for primary healthcare.

2.5.16 Ninth Five Year Plan (1997–2002)

The major objectives of the Ninth Plan were:

1. Convergence and increased involvement of public, private and voluntary organisations in providing healthcare.
2. Enabling Panchayat Raj Institutions (PRI) in planning and monitoring health programmes.
3. Strengthening of basic infrastructural facilities, including safe drinking water and primary healthcare.
4. Ensuring inter-sectoral coordination and accountability in the fullest utilisation of local and community resources for healthcare.

2.5.17 Tenth Five Year Plan (2002–07)

The major objectives of the Tenth Plan were:

1. Reforms focused on primary, secondary and tertiary healthcare levels.
2. Emphasis on equity and financing healthcare and social health insurance for the BPL population—Universal Health Insurance Scheme.
3. Human resource development, capacity building, quality assurance, PRI empowerment and focus on public-private partnership.

2.5.18 Eleventh Five Year Plan (2007–12)

The Eleventh Five Year Plan envisaged an inclusive approach towards healthcare that encompassed equitable and comprehensive individual healthcare. The Plan recognised that health outcomes do not depend just on the access to curative healthcare but also on strengthening public-health-related services, particularly access to improved sanitation, clean drinking water, nutritious food, hygiene, good child-rearing practices and development of delivery systems, which, in turn, depend on education and empowerment of women. Hence, gender equity was to be an overarching concern. The Plan gave importance to reducing disparities in health across regions and communities by ensuring access to affordable healthcare. For this, the Plan took some very important initiatives for increasing the outreach and quality of health services for the health of marginalised groups such as adolescent girls, women of all ages, children below the age of three, older persons, disabled persons, tribes and scheduled castes.

2.6 Evolution of the health system

According to the National Commission on Macroeconomics and Health (2005), the evolution of the health system in the country can be understood in three distinct phases. These are:

2.6.1 The first phase (1947–83)

During this phase, health policy was primarily based on two principles: (i) that none should be denied care for want of ability to pay, and (ii) that it was the responsibility of the state to provide healthcare to the people. This period saw the effective containment of malaria, the eradication of smallpox and plague, the reduction of maternal mortality to half of the pre-existing level, a reduction in infant mortality from 160 per 1,000 live births to about 105, the containment of cholera and an increase in longevity to almost 54 years of age.

2.6.2 The second phase (1983–2000)

This phase saw the first National Health Policy of 1983, which articulated the need to encourage private initiatives in healthcare service delivery, and at the same time access to publicly funded primary healthcare was expanded. During this phase, expansion of health facilities for providing primary healthcare in rural areas and the implementation of national health programmes for disease control under vertically designed and centrally monitored structures occurred. Fiscal stress also forced states to innovate and pursue wide-ranging experimentation for increasing accountability and efficiency in resource use. However, desired results did not occur due to serious shortcomings in public policy, like:

1. The failure to establish a regulatory framework and accreditation processes for governing the private sector.
2. The absence of a surveillance and epidemiological system, resulting in poorly designed health interventions.
3. Inadequate investments in developing skilled human resources.

2.6.3 The third phase (post-2000)

This phase is ongoing at the time of writing, when the focus has been shifting towards the factors and issues that have the potential to

profoundly affect the healthcare sector in the country in three important ways:

1. The desire and need to utilise private-sector resources for addressing public health goals.
2. Liberalisation of the insurance sector to provide new avenues for health financing.
3. Redefining the role of the state from being a provider to a financier of health services as well.

However, by and large, the focus in the health sector is still on the curative aspect rather than the preventive aspect. This has led to the creation of a public health infrastructure at a huge cost which has, to a large extent, remained underutilised in large parts, especially rural areas, for a variety of reasons and bursting at the seams in certain urban areas.

2.7 Healthcare facilities in India

Healthcare in India is delivered through a three-tier structure of health services comprising the primary, secondary and tertiary healthcare facilities with the objective of bringing healthcare services within the reach of the people of both the rural and urban areas. This structure is based on predetermined population norms. The primary tier consists of three types of healthcare institutions, namely an SC for a population of 3,000–5,000, a PHC for 20,000–30,000 people and a CHC as referral centre for every four PHCs. The district hospitals are to function as the secondary tier for the urban population. The tertiary healthcare is to be provided by healthcare institutions in urban areas which are well equipped with sophisticated diagnostic and investigative facilities. The details of the structure of the public healthcare system and current status of available facilities against prescribed norms are given in Table 2.1 and Fig 2.1.

The SC is the most peripheral and first contact point between the primary healthcare system and the community. Each SC is manned by one auxiliary nurse midwife (ANM) and one male health worker/MPW (M). SCs are assigned tasks relating to interpersonal communication in order to bring about behavioural change and provide services related to maternal and child health, family welfare, nutrition, immunisation, diarrhoea control and control of communicable diseases programmes. The SCs are provided with basic drugs for minor ailments that are needed for taking care of essential health needs of men, women and children. There are 145,894 SCs functioning in the country, and this represents a shortfall of about 12 per

cent from the prescribed number as per the government norms (MoHFW 2009).

Table 2.1: Structure of public healthcare system—norms and infrastructure

Sr. No.	Geogra-phical Unit	Health Facility	Population Norm	Staff and Infrastructure	Functions
1	Village	Health Centre	1,000 in Plain; 600 in Hills and Tribal and Desert Area	1 *Anganwadi* Worker (AWW) + 1 Female (ASHA)	Maternal and Child Health, Nutrition and Immunisation.
2	Village *Panchayat*	SC	5,000 in Plain; 3,000 in Hills and Tribal and Desert Area	1 Male (MPW); 1 Female (ANM); 1 Male (ANM) Telephone + Toilet + Labour Room.	Maternal and Child Health, Family Welfare, Nutrition, Immunisation, Diarrhoea and Communicable Disease Control.
3	Block	PHC	30,000 in Plain; 20,000 in Hills and Tribal and Desert Area	1 BMO 1 Child Specialist 1 LHV + 12 Medical and PMS 4 to 6 beds + Labour Room + Vehicle and Residence for Medical Staff + Telephone + Toilet.	Referral Unit for 6 SCs; Curative, Preventive, Promotive and Family Welfare Services.
4	Block	CHC	120,000 in Plain; 80,000 in Hills and Tribal and Desert Area	1 BMS + 6 Specialists (Surgeon, Gynaec, Paediatric, Anaesthetic) + 2 AYUSH + 23 PMS and other staff + 30 beds + OT + X-ray + Blood Storage + Laboratory + Vehicles (2) and Residence for Medical Staff + Telephone.	Referral for 4 PHCs + Emergency Obstetric care + Specialist Consultation.

Source: Annual Report, 2005 06, MoHFW, GOI.
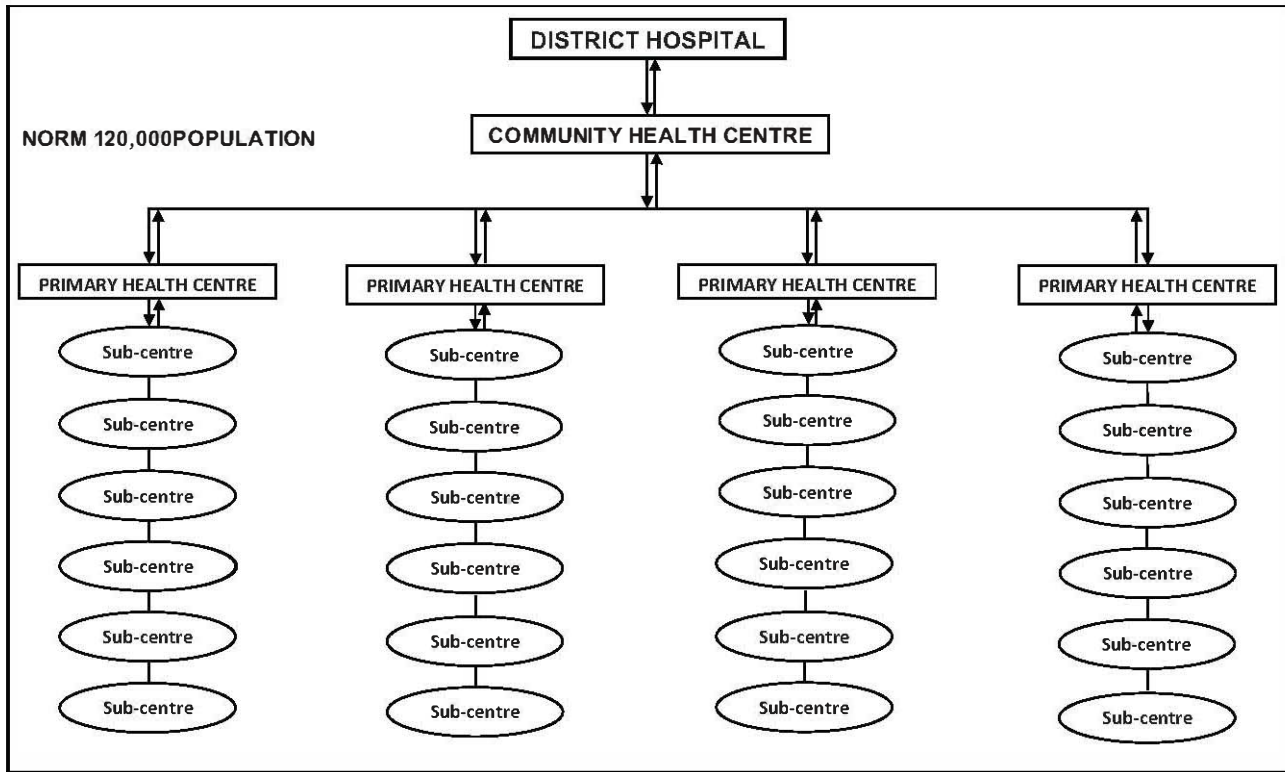
Fig 2.1 Three Tier Rural Health Care Facilities

2.7.1 Sub-centres (SCs)

2.7.2 Primary health centres (PHCs)

PHCs comprise the second tier in the rural healthcare structure envisaged to provide integrated curative and preventive healthcare to the rural population. Promotive activities include promotion of better health and hygiene practices, tetanus inoculation of pregnant women, intake of Iron and Folic Acid (IFA) tablets, and institutional deliveries. PHCs are established and maintained by state governments under the MNP/Basic Minimum Services Programme (BMSP). A medical officer is in charge of the PHC, supported by fourteen paramedical and other staff. It acts as a referral unit for six SCs. It has four to six beds for inpatients. The activities of the PHC involve curative, preventive and family welfare services. There were 23,391 PHCs functioning in the country. The numbers of PHCs are increasing year by year; still, there is a significant shortfall of about 16 per cent when compared to the required norms for PHCs.

2.7.3 Community health centres (CHCs)

Integration and strengthening of the existing rural health network occurred under the MNP during the Fifth Five Year Plan. Accordingly, one PHC among the existing four PHCs was upgraded to a CHC to:

1. Provide routine as well as specialised healthcare services in medicine, surgery, paediatrics, and obstetrics and gynaecology.
2. Make adequate provisions for emergencies and cases of acute illness referred from the neighbouring PHCs.
3. Provide relief to already overcrowded district and other referral hospitals.
4. Bring healthcare within the reach of the people residing in the rural areas.

Each CHC functions as a referral centre for four PHCs besides catering to the needs of the people as a rural hospital. CHCs cater to a prescribed norm of **80,000** to 12**0,000** people in rural areas. Each CHC has six specialists, one with a specialisation in the field of medicine, surgery, paediatrics and gynaecology. Additionally, it is equipped with facilities like thirty beds for indoor patients, a laboratory and an X-ray machine. The functions of CHCs include regular and outpatient services, inpatient services, comprehensive family welfare services (i.e., surgical and non-surgical, obstetrics and gynaecological), specialised services (including

labour-room services to tackle high-risk pregnancies), surgical services, specialised medical and paediatric services, laboratory diagnostic services, X-ray facilities, national health programmes, maternal care and child health, immunisation services, and more. In addition to medical services, the functions of CHCs also include making provisions for safe drinking water and basic sanitation, prevention and control of endemic diseases, collection of vital statistics of the area, health and nutrition, and education and training of various health personnel working under the CHC area. There were 4,510 CHCs in the country, which is almost 50 per cent lower than the prescribed number of CHCs as per the government's norms (Table 2.2 and Fig 2.2).

However, in spite of a vast network of healthcare institutions in India, there exists a wide gap between the rural and urban areas in terms of availability and accessibility of healthcare infrastructure, as the urban areas are found to be better equipped with these facilities. The concentration of health facilities and their high quality in urban areas may be attributed to huge private investment in the health sector during the previous two decades. Moreover, health being a state subject, there are imbalances and variations in availability and accessibility of these services in the rural areas across the states. The lopsided emphasis on health policy in favour of urban areas has led to disparity in the health status of the rural people, as reflected in the high birth, death and infant mortality rates. For instance, the rural health indicators, such as birth rate, death rate and infant mortality rate, stood at 30.3 and10.1 per 1000 people and 80 per 1000 live infants, respectively, during 1995; these rates are still higher as compared to the corresponding figures of 23.1 and 6.3 per 1000 people and 48 per 1000 live infants, respectively, for urban areas.

Table 2.2: Healthcare infrastructure

Sl. No.	Healthcare facilities	Uttar Pradesh	India
1.	SCs	20,521	145,894
2.	PHCs	3,690	23,391
3.	CHCs	515	4,510
4	Beds	56,384	576,793
5.	Licensed Blood Banks	168	2,445

Source: Bulletin on Health Statistics in India 2009. Infrastructure Division, MoHFW, GOI.

Structure of Healthcare Facilities

Health Manager
Account
Store Keeper

BLOCK LEVEL HEALTH OFFICE

Accredit Private
Providers for Public
Health Goals

100,000 Populations
100 Villages

**BLOCK
LEVEL
HOSPITAL**

Ambulance, Telephone,
Obstetrics/Surgical Medical
Emergencies – 24 x 7 &
Round of the Clock Service

Strengthen Ambulance/
Transport Services
Increase Availability of Nurses
Provide Telephone
Encourage Fixed Day Clinics

30-40 Villages

CLUSTER OF GPs – PHC LEVEL

3 Staff Nurses, 1 LHV for 4-5 SHCs,
Ambulance/Hired Vehicle, Fixed Day MCH/
Immunisation, Clinics, Telephone, MO i/c,
AYUSH Doctors, Emergencies that can be
handled by Nurses 24 x 7, & Round of the Clock
Service, Drugs, TB, Malaria etc. tests

5-6 Villages

GRAM PANCHAYAT – SUB HEALTH CENTRE LEVEL

Skill up-gradation of Educated RMPs/ 2 ANMs, 1 Male MPW for 5-6
villages; Telephone link; MCH/Immunisation Day, Drugs, MCH Clinics

VILLAGE LEVEL – ASHA, AWW, VH & SC

1 ASHA & AWW in every village, Village Health Day,
Drug Kit, Referral Chains

Note: TB= Tuberculosis, MO= Medical Officer, MCH= Maternal and Child Health

Source: NRHM, Document

Fig 2.2

2.7.4 Health facilities—availability and adequacy

Since independence, India has developed a vast health infrastructure and manpower for primary, secondary and tertiary care in the government, voluntary and private sectors. At present, there are 12,760 hospitals with 576,793 beds, 24,465 dispensaries and 3,408 hospitals under AYUSH, 145,894 SCs, 23,391 PHCs and 4,510 CHCs, and 2,445 licensed blood banks running in the country (DGHS 2009). Human resources in health include 104.603 dental surgeons, 816,629 allopathic doctors, 752,254 AYUSH doctors, 576,542 ANMs, 1,073,638 general nurses and midwives (GNM), and 656,101 lady health visitors (LHVs). India stands at a very low level, even within low-income countries, in capacities of human resources in the health sector. For instance, the estimated density of health workers is 20 per cent lower than that of WHO norms of 2.5 health workers per 1,000 people. Healthcare has emerged as one of the progressive and largest service sectors in India. Huge private investments in the health sector, particularly in large urban areas, have led to the growth of medical tourism in recent years. It is set to touch US $2 billion with an annual growth rate of about 30 per cent. The booming hospital service industry is projected to grow at 9 per cent during 2010–15. About 60 per cent of all outpatient care and as much as 40 per cent of inpatient healthcare is now provided by the private sector (UNICEF 2010). Hence, the country has made significant strides on the health front. These developments and the growth of health facilities have contributed to an increase in life expectancy, a reduction in maternal and infant mortality, and the eradication of smallpox and polio. However, the country is still far from achieving its population health goals.

Several research works and evaluation studies conducted by the Planning Commission of India and the Ministry of Health and Family Welfare (MoHFW) on the functioning of the PHCs and CHCs across the nation show regional variation and wide gaps in availability of staff and facilities in the majority of the CHCs. In fact, most of them are not equipped to deliver the intended specialised healthcare services. In particular, the following inadequacies can be listed:

1. Some PHCs and CHCs have been instituted without sanctioning all the posts of specialists.
2. More than 70 per cent of the PHCs and CHCs are running either with one specialist/doctor or without any specialist/doctor.
3. The extent of the shortfall in paramedical staff is found to be 12 per cent for NMWs, 16 per cent for dressers and 39 per cent for

radiographers. At the aggregate level, pharmacists and laboratory technicians are found to be in excess of the requirement.

4. Operation theatres, labour rooms, pathology, laboratories, safe drinking water, ECG machines, X-ray machines and generators are not available in the majority of CHCs.

Regional variation and wide gaps in availability and adequacy of health facilities and services at SC and PHC level have also been noticed through many studies and evaluation reports of the Planning Commission of India. The inadequacy of the healthcare facilities is starkly illustrated by the fact that only 35 per cent of the population has access to essential drugs, while UMI (upper-middle-income) reference level countries such as Argentina, Chile, Hungary, Malaysia, Mexico and South Africa as a reference point to indicate the magnitude of progress India needs to make in different fields. India's 2020 Vision is not only to reach these reference levels but to surpass them; in many cases, to reach above 80 per cent (Planning Commission 2002).

Infant immunisation against measles and DPT (diphtheria, tetanus and pertussis) for children less than 12 years old is only 60 per cent and 78 per cent, respectively, compared to the UMI level of over 90 per cent for both diseases. The pressure of a burgeoning population, 72 per cent of which is rural, with widespread illiteracy and social deprivations, poses a formidable challenge for the government in providing health facilities. Acknowledging this, the Government of India started the NRHM under a flagship programme—-i.e., the National Common Minimum Programme— in 2005 to strengthen rural health infrastructure to provide accessible, affordable, accountable, effective and reliable primary healthcare, especially to poor and vulnerable sections of the population.

Table 2.3: Shortfall in healthcare infrastructure in India

Healthcare facilities	Required	Existing	Shortfall	Shortfall (in per cent)
SCs	158,792	144,998	20,903	13.16
PHCs	26,022	22,669	4,803	18.46
CHCs	6,491	3,910	2,653	40.87

Source: Bulletin of Rural Health Statistics in India, Special Revised Edition, MoHFW, GOI (2006).

Note: All-India shortfall is derived by adding state-specific shortfall figures, ignoring the existing surplus in some of the states.

Despite a steady increase in public healthcare infrastructure, utilisation of public health facilities by the population for outpatient and inpatient care has not improved to the desired level. The NSSO (1986–2004) data clearly show a major decline in utilisation of the public health facilities for inpatient care and a corresponding increase in utilisation of the same from private healthcare providers in both rural and urban areas (Table 2.4).

Table 2.4: Percentage of cases of hospitalised treatment by type of hospital in rural and urban areas in India

Sector	1986–87		1995–96		2004–05	
	Rural	Urban	Rural	Urban	Rural	Urban
Government	59.7	60.3	43.8	43.1	41.7	38.2
Private	40.3	39.7	56.2	56.9	58.3	61.8

Source: Report No. 507, Morbidity and Healthcare, Jan. June, 2004, NSSO 60th Round (2004).

With the exception of a few states, there has been very low utilisation for outpatient care as well. Major health indicators like the total fertility rate (TFR), maternal mortality rate (MMR), infant mortality rate (IMR), crude birth rate (CBR) and crude death rate (CDR) in India are still high due to low levels of utilisation of healthcare facilities. The situation of these health indicators in Uttar Pradesh and Mau in particular is worse than the national averages (Table 2.5).

Table 2.5: State of health across different geographical units

Indicator	Mau district	Uttar Pradesh	India
Total fertility rate (TFR)	-	3.8	2.6
Maternal mortality rate (MMR)	385	345	212
Infant mortality rate (IMR)	76	63	50
Crude birth rate (CBR)	23.3	28.7	22.5
Crude death rate (CDR)	9.0	8.2	7.3

Source: DLHS-III Year 2007 08 MoHFW, GOI, SRS-2011and Annual Health survey 2011.

2.8 NRHM (National Rural Health Mission)

The National Rural Health Mission was introduced in the country to improve the health of the large rural population that so far have had only limited access to the healthcare facilities that remained concentrated in the

urban centres of the country. The scheme was launched on April 12, 2005 with the following aims:

1. To address the gaps in the provision of effective healthcare to rural populations, with a special focus on eighteen states which have weak public health indicators and/or weak infrastructure.
2. To shift away from the vertical health and family welfare programmes to a new architecture of all-inclusive health development in which societies under different programmes will be merged and resources pooled at the district level.
3. Effective integration of health concerns with determinants of health like safe drinking water, sanitation and nutrition through integrated District Plans for Health. There is a provision for flexible funds so that the states can utilise them in the areas they feel are important.
4. To strengthen the public health infrastructure, including outreach, through mobile clinics. It emphasises involvement of the non-profit sector, especially in the underserved areas. It also aims at flexibility at the local level by providing for untied funds.
5. To carve out supplementary strategies for fostering public-private partnerships (PPPs), improving equity and reducing out of pocket expenses, introducing effective risk-pooling mechanisms and social health insurance, and taking advantage of local health traditions.

2.8.1 Strengthening existing health system

Decentralisation of functions to hospital units/health centres and local bodies is a growing felt need. The states need to move away from the narrow focus on the implementation of budgeted programmes and vertical schemes. There is a need to develop systems that comprehensively address the health needs of all citizens. Thus, in order to improve the healthcare services in the country, the Eleventh Five Year Plan insisted on Integrated District Health Plans and Block Specific Health Plans. It mandated involvement of all health-related sectors and emphasised partnership with PRIs, local bodies, communities, NGOs, and voluntary and civil society organisations.

2.8.2 Strengthening of rural health infrastructure under the NRHM

Healthcare is one of the seven thrust areas of the National Common Minimum Programme, in which it is proposed to increase the expenditure

in the health sector, from the current level of 0.9 per cent of GDP (2007) to 2–3per cent of GDP over the next five years, with the main focus on primary healthcare. NRHM aims at bridging the gap in rural healthcare through the creation of a cadre of Accredited Social Health Activists (ASHAs) and improves hospital care, decentralisation of programmes to district level to improve intra- and inter-sect oral convergence, and effective utilisation of resources. The NRHM further aims to provide an overarching umbrella to the existing programmes of Health and Family Welfare, including RCH-II, malaria, blindness, iodine deficiency, filaria, kala-azar, TB, leprosy and integrated disease surveillance.

Further, the NRHM addresses the issue of health in the context of a sector-wise approach, including sanitation and hygiene, nutrition and safe drinking water as basic determinants of good health in order to have greater convergence among the related social sector departments—i.e., AYUSH, Women and Child Development, Sanitation, Elementary Education, Panchayati Raj and Rural Development. Hence, the emphasis under NRHM is to improve primary healthcare, decentralisation, intra- and inter-sectoral convergence, and community ownership. The Mission seeks to build greater ownership of the programme among the community through involvement of Panchayati Raj Institutions, NGOs and other stakeholders at national, state, district and sub-district levels to achieve the identified goals of the National Population Policy 2000 and National Health Policy. In order to fill the gaps in the existing rural healthcare infrastructure available in the country, the key components under the strategy of the NRHM are as follows:

1. Creation of a cadre of ASHAs.
2. Strengthening SCs with additional funding for creation of village health schemes.
3. Raising CHCs to the level of Indian public health standards (IPHS).
4. Integration of vertical health and family welfare programmes at national, state and district levels.
5. Strengthening programme management capacities at national, state and district level.
6. Increasing the supply of generic drugs (both allopathic and AYUSH).
7. Implementing a school health check-up programme and promotion of multiple health insurance models.

8. Supplementing vitamin A and Iron and Folic Acid tablets to deficient children at the *Anganwadi* level.
9. Setting up of comprehensive health and family welfare clinics.
10. Ensuring services of ANM and medical officers, and PHCs, at fixed days at *Anganwadi* levels.
11. Exploring new health financing mechanisms, policy reforms in medical education and public health management, and promotion of the private sector, for achieving public health goals.

2.8.3 NRHM Plan of Action for healthcare facilities strengthening

2.8.3.1 Accredited Social Health Activists (ASHAs)

The NRHM conceptualises ASHAs as the interface between the community and the public health system. There is a provision for every village to have a female ASHA who is chosen by and accountable to the village Panchayat. She would act as a bridge between the ANM and the village regarding promotion of universal immunisation, referral and escort services for reproductive and child health (RCH), construction of household toilets and other healthcare delivery programmes. She possesses a drug kit containing generic AYUSH and allopathic medicines for common ailments. In addition, she facilitates preparation and implementation of the Village Health Plan along with an *Anganwadi* worker, ANM, functionaries of other departments, and self-help groups under the leadership of the Village Health Committee of the Panchayat.

2.8.3.2 Strengthening sub-centres (SC)

Under the NRHM, each SC has been given an additional fund and essential drugs, both allopathic and AYUSH, for local action at village level. Further, the NRHM sanctions additional multipurpose workers (Male)/ANMs wherever needed, new SCs as per the 2001 population norm and up gradation of existing SCs.

2.8.3.3 Strengthening primary health centres

The NRHM aims at strengthening PHCs for quality preventive, promotive, curative, and supervisory and outreach services, through:

1. Adequate and regular supply of essential quality drugs and equipment to PHCs.

2. Provision of 24-hour service in at least 50 per cent of PHCs by addressing the shortage of doctors, especially in high-focus states, through mainstreaming AYUSH manpower.
3. Intensification of ongoing communicable disease control programmes, new programmes for control of non-communicable diseases and up gradation of PHCs for 24-hour referral service.

2.8.3.4 Strengthening CHCs for first-referral care

Under the NRHM, health facilities, infrastructure and staff in each existing CHC (thirty to fifty beds) have been augmented so the CHCs could act as 24-hour first-referral units (FRUs). Further, it promotes stakeholder committees (Rogi Kalyan Samitis) for proper management of hospitals. New CHCs (thirty to fifty beds) have also been recommended to meet the population norm as per Census 2001. Another important intervention under the NRHM is the provision of a mobile medical unit at district level for improved outreach services.

2.8.3.5 Strengthening of secondary and tertiary healthcare

For strengthening secondary and tertiary healthcare, the following priorities have been set:

1. Establishment of hospital development committees in all government hospitals.
2. Improvement of infrastructure and facilities in district hospitals.
3. Provision of high-quality secondary healthcare services for every block in the country.
4. Creation of state-of-the-art medical education, research and care institutions in all disciplines of medicine.
5. Creation of new institutions and upgradation of existing tertiary care hospitals.
6. Mainstreaming of AYUSH systems to actively supplement the efforts of the allopathic systems.

2.9 Role of the state in the area of public health

In developing countries like India, where 72 per cent of the population is rural and per-capita income is very low, the role of the state in providing healthcare facilities increases immensely. Realising this fact, the Sokhey Committee or National Planning Committee (NPC) (1938) and the Bhore Committee (1946) had recommended that it must be a duty of the

government to provide free and easy health facilities to the poor and underprivileged section of the society. But, even after sixty years of independence, provision of health facilities is largely the responsibility of the central government.

At the state government level, there is no evidence of any policy initiatives in the health sector, while health is a state subject. The central government, through the MoHFW and various committee recommendations, has shaped health policy and planning in India. It has directed this through the five-year plans, through which it executes its decisions. The entire approach has been programme-based only. The central government designs national programmes and the states have to just accept them and implement them. The central government assures this through the fiscal control it has over distribution of resources. So, essentially, in what is a state subject the central government takes major decisions. However, it is important to note that this central control is largely over preventive and promotive programmes like the disease control programmes and family planning, which together account for between two-thirds and three-fourths of state budgets. Curative care—that is, hospitals and dispensaries—has not been an area of central influence, and in this domain investments have come mostly from the states' own resources.

The interventions of the state at different points in time in independent India have remained as a kind of piece-meal solution to the existing and diversifying health-related problems. ●n the one hand, the population is faced with new diseases like increase in cancer after the changed quality of food-grains, owing to increased use of fertilizer and pesticides in the agricultural sector. The introduction of an irrigation system in different parts of the country has resulted in a resurgence of malaria, which was declared eradicated in 1976. The increasing incidence of non-communicable diseases like cardiovascular diseases and diabetes has made urban as well as rural populations more vulnerable. ●n the other hand, the lack of increase in healthcare facilities has made the situation no better. Even after sixty-five years of independence, the norm set by the Bhore Committee has not been achieved in large parts of the country as far as the availability of healthcare facilities in terms of healthcare institutions are concerned. By contrast, the country has got ten to a point of providing a high level of sophisticated treatment of complex diseases to certain sections of society—to the extent of attracting "health tourists" from outside the country. The repeated reports at different points in history have suggested similar measures to improve the healthcare facilities; this

indicates inaction on the reports because the same problem persists and again and again similar measures are suggested.

2.10 Conclusions

Health and healthcare development has not been a priority of the Indian state. This is reflected in two significant facts: first, the low level of investment and allocation of resources to the health sector over the years—about 1per cent of GDP with clear declining trends during the last decade; and second, the uncontrolled, very rapid development of an unregulated private health sector, especially in the last two decades.

Health is fundamental for development of individuals and communities as a whole. Availability, accessibility and affordability, community participation and technology are fundamental criteria for evolution of a sound healthcare system. A complex combination of factors, including socio-economic factors, not only affects development of healthcare facilities but their utilisation, too. In India, the modem healthcare system evolved during the British period, but real development took place after independence following the recommendation of several committees and implementation of five-year plans. Among the committees, the Bhore Committee (1946), Mudaliar Committee (1962), Chadha Committee (1963), Mukherjee Committee (1966), Jungalwalla Committee (1967), Kartar Singh Committee (1973), Shrivastav Committee (1975) and Mashelkar Committee (2003) are notable. Recommendations of these committees have been implemented primarily through the five-year plans. Consequently, the healthcare system evolved in three distinct phases, i.e., the first phase (1947–83), second phase (1983–2000) and third phase (post-2000). Healthcare in India is delivered through a three-tier structure of health services comprising the primary, secondary and tertiary healthcare facilities, which include district hospitals, CHCs, PHCs and SCs.

Despite rapid growth in healthcare facilities, availability, accessibility and affordability of healthcare facilities is still a cause of concern. There is a shortfall in healthcare infrastructure in India. It is clearly reflected in health indicators like MMR, TFR, CBR and CDR across different geographical units in the country. The role of state in the area of public health is immense. The government is strengthening the existing health system through implementation of its flagship programme, the NRHM. Such efforts may have a positive impact in the future.

CHAPTER 3

DISTRIBUTION OF HEALTHCARE FACILITIES

It is important to know the distribution of healthcare facilities as there is a direct relationship between availability of the facilities and the utilisation pattern of healthcare facilities. A number of varied issues like availability, accessibility, affordability and quality of healthcare facilities arise due to an increasing population and due to variation in the distribution of healthcare facilities. In view of this background, the healthcare system, public healthcare network and distribution of healthcare facilities, along with various components of physical healthcare facilities available at different healthcare centres, like CHCs, PHCs and SCs, are discussed in this chapter. Scenarios related to healthcare centres and facilities of India and Uttar Pradesh are also described as an introductory part of the chapter.

The growing concern about human as resource in order to work maintains the requirements of development, human health as an issue of continuous importance for policy makers. In policy framework, healthcare is understood as a multitude of services rendered to individuals, families or communities by the agents of the health services or professionals for the purpose of promoting, maintaining, monitoring and restoring individual health. The major tasks for suitable healthcare are appropriateness, comprehensiveness, adequacy, availability, accessibility, affordability, feasibility for the users and also for the providers. Healthcare is defined as "the community guaranteeing all groups of a population the best available medical care and the maximum coverage for the prevention of illness and promotion of health" (Srivastava 1993). In a more suitable way, social capital is linked to health, and issues of healthcare services are then defined as one of the most essential services required by the inhabitants of an area as they reflect the conditions of health and ill health of the society (Armstrons 2010).

The spatial dimension of healthcare facilities and infrastructure shows a varying pattern across the country. It is pertinent to mention here that Uttar Pradesh has six times more people than Kerala but just one-third the total number of hospitals. Besides, uneven distribution of healthcare facilities

within the state is another aspect for study. This unevenness has further aggravated the problems of healthcare accessibility. The underdeveloped nature of the healthcare infrastructure is quite evident through the fact that 75 per cent of the population still are deprived of modern healthcare facilities and go to quacks or traditional healers for their treatment. Another aspect of healthcare infrastructure availability is its differentiated prevalence into rural-urban gaps, which creates obstacles for rural environments. The heterogeneous nature of India results in spatial and social imbalances in the quantity and quality of available healthcare (AkhtarandIzhar 1986). In the process of balance growth and good quality for human resource development, our policy makers became more concerned about the issues related to human health. The Eighth Five Year Plan opened up new avenues for healthcare infrastructure accessibility and availability with the goals of "Health for All" (HFA) and "Health for Underprivileged" (HFU) by 2000 A.D. The public/government healthcare institutions in India follow a hierarchy—i.e., from PHC to CHC and finally to multispecialty hospitals—which is based on the referral system; as Sharma (2000) points out, the referral system (as building of referral linkages) enables optimal utilisation of available facilities at each level.

Akhtar (1991) has rightly observed that in a developing country like India, one of the serious lapses in the planning process has been the lack of understanding of the spatial or the regional structure of the healthcare systems. Further, each year, millions of children and mothers could be saved through improved access to basic health interventions for those who most desperately need them—the rural poor who live in remote villages where the cost of reaching them could be five times higher than in urban areas (Gupta and Gupta 2008). Until recently, the healthcare infrastructure was mostly concentrated in urban centres, but with the launch of the NRHM, the focus of the health sector has shifted towards the dejected countryside. Currently, India spends less than 1per cent of its GDP on health, which is even less than countries like Sri Lanka and Sierra Leone.

According to the DLHS and facility survey coordinated by IIPS (the International Institute for Population Sciences) in 2003, if adequacy is defined as having at least 60 per cent of the required inputs, only 76 per cent of the FRUs and 63 per cent of the CHCs have adequate infrastructure, 61 per cent of the FRUs and 46 per cent of the CHCs have adequate equipment, 32 per cent of the FRUs and 24 per cent of CHCs have adequate supplies, and 37 per cent of the FRUs and 14 per cent of the CHCs have adequate staff.

The state has the responsibility for ensuring good health for all its citizens. Provision of basic healthcare services to the people is the primary objective of the government in the context of development (Srinivasan 2006). The Department of Health and Family Welfare is striving hard for the attainment of health for people through the wide network of the government healthcare delivery system. In this connection, the government healthcare institutions are catering to the needs of the people, in the rural as well as urban centres. Residents of metropolitan cities are generally thought to have easy access and comparatively better health facilities than their rural counterparts, but the conditions in these centres are rather dismal. Lack of manpower, staff absenteeism, lack of specialised services, inadequate fund allocation, dilapidated buildings, obsolete machinery, poor amenities and—above all—rampant corruption have made these government hospitals in cities/towns/villages less attractive, and there is a paradigm shift in the medical practice, accessibility and affordability for the people from government to non-governmental organisations (NGOs) and other hospitals for better health access. The National Health Policy 2001 shows a major policy shift from the National Health Policy 1983 on the issue of private sector and NGOs' participation in health services. Consequently, a larger role is now being created for the private and the voluntary sector in providing healthcare services (Ansari 2008). Inefficient service delivery due to lack of resources, uneven distribution of resources and malpractices are major constraints in addressing the health needs of the patients. It is evident that low-income individuals and families are underserved, as are rural areas compared to urban individuals and families (Anderson and Rosenberg 1990).

Healthcare is an expression of concern for fellow human beings. Comprehensive healthcare has been defined as "the community guaranteeing all groups of the population the best available medical care and the maximum coverage for the prevention of illness and promotion of health" (Srivastava1993). The growth and prosperity of any country depend on the good health of its citizens, as Murugan rightly argued: "Health is not everything but everything is nothing without health" (2008). Nothing could be of greater significance than the health of the people in term of recourses for socio-economic development or even national development.

To fulfil the requirements of healthcare facilities of their citizens, every nation makes endeavours to maintain its own healthcare delivery systems. The healthcare system varies from one country to another depending on the socio-economic status and level of development of that particular

country. In a large country like India, where nearly 70 per cent of its population lives in rural areas as well as where society is characterised by multi-ethnic groups and traditions, it is quite difficult to ensure proper healthcare to all strata of the society, but efforts for this purpose need to be consistent and continuous through strengthening the network of public healthcare facilities. India's healthcare service system is a mixture of the state-funded public healthcare delivery system and individual corporates' own private healthcare systems. Both government and private healthcare facilities co-exist in our country. Rural areas in our country are characterised by the poor healthcare services. Most of the medical professionals are located in urban areas. According to the national health profile 2010, there are 12,760 hospitals with576,793 beds in the county. Of these, 6,795 hospitals with 149,690 beds are in rural areas and 3,748 hospitals with 339,195 beds are in urban areas, but the hospital-bed ratios in rural and urban areas are 1:22 and 1:91, respectively. There is a wide gap in healthcare facilities across rural and urban areas. As far as the private sector is concerned, there are a large number of private hospitals mushrooming all over the country, especially in the large urban centres, but their high cost of treatment acts as a barrier for rural poor people to avail themselves of their services.

The WHO member countries adapted a declaration in 1978 to achieve the goal of health for all by 2000A.D. The Government of India, being a signatory, proposed to increase the healthcare facilities in the country in a phased marmer so as to have a PHC for every 30,000 people in plain areas (per 20,000 people in tribal, desert and hilly areas), an SC for every 5,000 people in plain areas (per 3,000 people in tribal, desert and hilly areas) and a CHC for every 120,000 people in plain areas (per 80,000 people in tribal, desert and hilly areas). But India could not achieve the above norms and goal even after a decade of its deadline (NRHM 2007–08; Human Health Report 2003).

Public health is one of the important components among the vital social infrastructure responsible for the holistic development of a region, as it reflects the quality of life of the people in that region. The distribution of public healthcare infrastructure reflects the overall development with backward and forward linkages, which affects the entire existing physical and social infrastructure. The MDG (Millennium Development Goals), the Alma-Ata declaration of WHO and -most popularly -the NRHM in India, have all put much emphasis on the homogenous public healthcare infrastructure distribution. In spite of these concerted efforts, there are wide gaps between the set targets and the existing infrastructure. The

scenario is more dismal when the pattern of distribution of healthcare infrastructure is compared at three tier levels, i.e., national, state (Uttar Pradesh) and district level (Mau).

Table 3.1: Spatial distribution of public health infrastructure

Facilities	India	Uttar Pradesh	Mau
Total no. of hospitals (including CHCs)	12,760	861	13
Total no. of beds	576,793	56,384	302
No. of rural hospitals	6,795	515	7
No. of rural hospital beds	149,690	15,450	150
No. of urban hospitals	3,748	346	6
No. of urban hospital beds	399,195	40,934	152
Rural hospital-bed ratio	22	30	21
Urban hospital-bed ratio	92	118	25
Hospital-population ratio	90,972	229,118	169,628
Bed-population ratio	2,012	3,499	7,301
No. of CHCs	4,510	515	7
No. of PHCs	23,391	3,690	44
No. of SCs	145,894	20,521	233

Source: National Health Profile of DGSHS, 2010 and District Statistical Handbook, Mau, 2011.

The rampant heterogeneous character of the public healthcare infrastructure across the country, state and district levels is clear. Uttar Pradesh accounts for 17 per cent of the country's population share, but when compared to the availability of healthcare infrastructure it lags badly behind the smaller states like Kerala. The total number of hospitals (including CHCs) in India is 12,760, and only 861 are in Uttar Pradesh, which is just 6.7 per cent of the country. The district of Mau has only 13 of them, which is just 1.51 per cent of Uttar Pradesh, but at the same time its share of the population of Uttar Pradesh is 16.49 per cent of the country, and district Mau has 1.11 per cent of the population of the state (Census of India 2011, provisional data).

There are 576,793 available beds in India, out of which Uttar Pradesh has 56,384 (around 10 per cent) and Mau 302 (0.54 per cent of Uttar Pradesh). As for the number of rural hospitals considered, Uttar Pradesh has 515,

which is very low compared to India (6,795), and Mau has only 7 hospitals, which is very low (53.85 per cent) when compared to the share of the rural population in the district (80.56 per cent as of 2001). The number of rural beds was149,690 for India, 15,450 for Uttar Pradesh and 150 for Mau. The distribution in the urban sphere is also similar. India has 3,748 hospitals in urban areas and Uttar Pradesh has 346 (9.23 per cent of the country), whereas Mau has only 6 hospitals (1.73 per cent of Uttar Pradesh).Compared to the rural statistics, the ratio in the urban hospitals is greater, as urban hospitals had 399,195 beds in only 3,748 hospitals across India, 40,934 beds in 346 hospitals in Uttar Pradesh and 152 in 6 hospitals in Mau, which is comparatively better than the all-India situation in term of rural hospitals. It is clearer when the rural-urban bed ratio is compared. The urban hospitals have 92 beds per hospital, which is four times more than rural hospitals (with only 22 beds per hospital). In Uttar Pradesh, the rural-urban gap is wider with 118 urban beds per hospital and 30 beds per hospital in rural areas; however, the ratio is quite equal in Mau district with 25 beds per hospital in urban areas and 21 in rural areas.

The other sign of the heterogeneous character of the healthcare infrastructure is discernible with the hospital-population ratio and the bed-population ratio. The India hospital-population ratio is 90,972; for Uttar Pradesh it is 229,118 and it is 169,628 for Mau. Similarly, the bed-population ratio for India is 2,012; it is 3,499 for Uttar Pradesh and 7,301 for Mau, which is very high as compared to the data for both the all-India and Uttar Pradesh levels.

The total number of CHCs stands at 4,510 for India, 515for Uttar Pradesh and 7 for Mau district. As far as the number of PHCs is considered, it is around 23,391 for India, 3,690 in Uttar Pradesh (15 per cent of India) and 44 in Mau district. The number of SCs was 145,894 in India, 20,521 in Uttar Pradesh (14 per cent of India, while it accounts for 16.49 per cent of the population) and 233 in the study area.

So, it is clear from the Table 3.1 that there exists wide gaps in the distribution of healthcare facilities across the country, Uttar Pradesh and the study area. There are inter-regional gaps and rural-urban gaps, and the infrastructure in no way reflects the synchronisation between population and the number of healthcare institutions. This heterogeneous pattern is the root cause of several diseases, lopsided development, regional imbalances and continuing pressure on existing units, and, above all, denied and delayed healthcare accessibility for the teeming millions.

3.1 Distribution of villages and population

Accessibility to healthcare units and infrastructure is a serious problem in a country like India, where 65 per cent of its population still resides in villages. Millions of children, women and persons with diseases die every year due to inaccessibility of healthcare centres which are disproportionally located more densely in urban areas. After the launch of the NRHM, the situation has started becoming better, but only in a limited sense. Access to healthcare centres and units is a major component of the NRHM and the HFA (2000) mission. Here, accessibility of healthcare centres has been analysed with the distance (up to 10 km) at the block levels. According to the District Level Household and Facility Survey (DLHS-3), 77.8 per cent of villages within 10 km from PHCs were distributed in Uttar Pradesh (IIPS 2008).

In the whole Mau district, 36.71per cent of the villages have a PHC at a distance less than 5 km away and 42.53 per cent of villages have a PHC within 5–10 km, but around one-fifth of the total villages have poor accessibility with a PHC more than 10 km away. When population ratio is taken into account, the situation is quite similar.

In the category of villages with comparatively good accessibility (Table 3.2), the Ratanpura block stands first with 59.87 per cent of the villages having a PHC within 5 km. Doharighat follows with almost 50 per cent of its villages having a PHC within 5 km, and Badraon with 45.39 per cent of its villages. The Muhammadabad Gohana block is the most inaccessible with only 20.56 per cent of its villages in the 5-km circumference; it is followed by the Ranipur (23.19per cent) and Pardaha (26.80per cent) blocks.

In the category of moderate accessibility, Muhammadabad has 62.78 per cent of its villages with access to the nearest PHC in the 5–10 km range. The Ratanpura block has the smallest percentage of villages even in this category. The other block stands between these two extremes. Around 42.53 per cent of the blocks of the district fall in this category; this reflects moderate access to the nearest PHCs.

Table 3.2: Distribution of PHCs and their relative distance from villages across blocks

Name of block	Per cent of village			Per cent of population		
	Less than 5 km	5 to 10 km	More than 10 km	Less than 5 km	5 to 10 km	More than 10 km
Doharighat	49.67	43.71	6.62	52.77	43.19	4.04
Ghosi	41.67	44.23	14.10	37.69	42.73	19.58
Badraon	45.39	43.97	10.64	40.84	47.75	11.41
Fatehpur Madaun	40.00	34.50	25.50	32.59	39.94	27.46
Kopaganj	30.60	38.81	30.60	29.28	44.76	25.95
Pardaha	26.80	47.42	25.77	20.97	51.61	27.42
Ratanpura	59.87	29.30	10.83	59.26	31.69	9.05
Muhammadabad Gohana	20.56	62.78	16.67	34.68	47.32	18.00
Ranipur	23.19	40.30	36.50	24.19	42.63	33.19
Mau District	36.71	42.53	20.76	36.41	43.48	20.11

Source: Calculated from Census of India, Amenities data district Mau, 2011.

Surprisingly, Doharighat has only 6.62 per cent of its total villages in the third category (which reflects inaccessibility of PHCs, with villages that have the nearest PHCs at a distance of more than 10 km). Ratanpura, which has the highest per cent of villages listed as accessible (i.e., within 5 km of a PHC), comes third in this category. It is Ranipur which is most inaccessible, with 36.50 per cent of its total villages having a PHC in the "more than 10 km distance" category, and it is followed by Kopaganj with 30.60 per cent of its villages in this category. The district average is 20.76 per cent. The accessibility of PHCs has also been analysed through the percentage of population in those villages in each distance category. About 43.48 per cent of the population has moderate access to the nearest PHCs and 30.41 per cent has better access, while 20.11 per cent of the population has poor access as they have PHCs which are more than 10 km away.

Ratanpura has the highest percentage of its population (59.26 per cent) in the "good accessibility" (less than 5 km) category, followed by Doharighat (25.77 per cent) and Badraon (40.84 per cent), but Pardaha, Ranipur and Kopaganj have the largest populations falling into this category. Doharighat has the smallest percentage of its population (4.04per cent), followed by Ratanpura (9.05 per cent) and Badraon (11.41 per cent), in the

"least accessible" category—i.e., they are better on the overall accessibility scale.

It is obvious from Table 3.2 that Doharighat, Ratanpura and Badraon have larger percentages of their populations as well as their villages with access to the nearest PHCs, whereas Ranipur, Pardaha, Fatehpur Madaun and Kopaganj have higher percentages of their villages and populations with no access to the nearest PHC.

3.2 Growth of healthcare facilities

The basic aim of healthcare facilities is to ensure healthy life, which is a process of continuous and progressive improvement of the health status of a population living in a spatial unit. Growth and expansion of healthcare resources provide opportunities to basic healthcare systems on sound primary healthcare system and universal coverage. Healthcare infrastructure is an important indicator for understanding the healthcare policy and welfare mechanism in a country. It signifies the investment priority with regards to the creation of healthcare facilities. Here decadal growth of healthcare facilities has been analysed at development-block level and also at district level. The study of the growth of healthcare facilities in the district is explained through rural-urban differentials of two decades: 1991–2001 and 2001–11. The growth of different systems and segments of healthcare services have changed in both decades.

Table 3.3 shows that the decadal growth (1991–2001) of allopathic facilities increased per doctor by 26.09 per cent and the SCs also increased by 0.44 per cent, while the PHCs decreased (-4.55 per cent), along with beds (-25.46 per cent), paramedical staff (-35.62 per cent) and other staff (-28.96 per cent). The hospitals/dispensaries are constant in nature in the present study over the time period. Ayurvedic healthcare facilities such as hospitals/dispensaries increased by 26.09 per cent, beds by 37.50 per cent and doctors by 47.62 per cent over the same decade. The system of homeopathic healthcare services has shown an increase in hospitals/dispensaries by 162.50 per cent and doctors by 1,500 per cent also during the same time period. It is the highest growth rate of healthcare services in all the systems and segments during the period. The Unani system of healthcare facilities has increased by 100 per cent for hospitals/dispensaries, beds and doctors also in 1991–2001.

Table 3.3 also shows the growth of rural-urban healthcare facilities in Mau district during 1991–2001 and 2001–2011. It is noted that during 1991–

2001, for the allopathic healthcare services of rural areas, the percentage of PHCs increased by 6.25 and there was an increase in the number of doctors by 2.27 per cent, but the SCs decreased by 3.98 per cent, beds by 19.09 per cent and paramedical staff by 32.80 per cent, and other staff also decreased by 54.58 per cent. In urban areas, growth is noted: SCs, doctors and other staff increased by 500 per cent, 68 per cent and 327.27 per cent, respectively. In urban areas, the PHCs decreased by 33.33 per cent and beds by 32.08 per cent, and paramedical staff also decreased by 52.78 per cent during the same period.

3.3 Distribution of healthcare facilities

The area has one district hospital, one tuberculosis hospital, seven CHCs and forty-four PHCs, including new PHCs and 245 SCs. Besides this, there are twenty-nine Ayurvedic, twenty-three homeopathic and six Unani hospitals/dispensaries for providing healthcare services to the people (Fig 3.1). Development block-wise distribution of various healthcare facilities is given in Table 3.4.

As far as the spatial analysis for variation in healthcare facilities is concerned, it can be made at block level in relation to PHCs. The highest numbers of PHCs are found in the Ranipur (6), Doharighat, Fatehpur Madaun and Ratanpura (5) development blocks. The Ghosi and Kopaganj development blocks witness abject conditions in terms of number of PHCs. All the development blocks have one CHC except Doharighat, Pardaha and Ranipur. It is clear from Table 3.4 that hospitals and dispensaries are mostly confined to urban centres, besides one each in the Doharighat, Badraon and Ranipur development blocks. The highest number of Ayurvedic hospitals is found in Ratanpura (5), followed by Ranipur (4), Badraon, Doharighat and Fatehpur Madaun (3 in each block), and Kopaganj, Muhammadabad Gohana and Pardaha (2 each).The homeopathic hospitals are located in Ratanpura (6) and Ranipur (4), besides two each in Badraon, Fatehpur Madaun, Ghosi and Kopaganj, and one each in the Doharighat and Pardaha development blocks. There are only six Unani hospitals; four in rural areas, namely the Ghosi, Fatehpur Madaun, Kopaganj and Pardaha development blocks (one in each), and two in urban areas. Distribution of healthcare facilities is almost even across the district and shows no specific relation to availability of transport networks and modes. This means that remote villages located away from the transport nodes and major roads also possess some kind of healthcare facilities. However, concentration of healthcare facilities has occurred

Table 3.3: Growth of healthcare facilities in Mau district (1991–2011)

Healthcare facilities		Rural			Urban			Total			Percentage Growth					
											Rural		Urban		Total	
		1991	2001	2011	1991	2001	2011	1991	2001	2011	1991–2001	2001–2011	1991–2001	2001–2011	1991–2001	2001–2011
Allopathic	Hospital/Dispensary	3	3	3	9	9	19	12	12	22	0.00	0.00	0.00	111.11	0.00	83.33
	CHC	-	2	6	-	-	1	-	2	7	-	200.00	-	-	-	250.00
	PHC	32	34	39	12	8	5	44	42	44	6.25	14.71	-33.33	-37.50	-4.55	4.76
	SC	226	217	225	2	12	20	228	229	245	-3.98	3.69	500.00	66.67	0.44	6.99
	Bed	220	178	218	212	144	152	432	322	370	-19.09	22.47	-32.08	5.56	-25.46	14.91
	Doctor	44	45	66	25	42	47	69	87	113	2.27	46.67	68.00	11.90	26.09	29.89
	Paramedical staff	439	295	287	72	34	36	511	329	323	-32.80	-2.71	-52.78	5.88	-35.62	-1.82
	Other staff	306	139	136	22	94	95	328	233	231	-54.58	-2.16	327.27	1.06	-28.96	-0.86
Ayurvedic	Hospital/Dispensary	20	25	25	3	4	4	23	29	29	25.00	0.00	33.33	0.00	26.09	0.00
	Bed	64	84	84	40	59	59	104	143	143	31.25	0.00	47.50	0.00	37.50	0.00
	Doctor	20	25	21	1	6	5	21	31	26	25.00	-16.00	500.00	-16.67	47.62	-16.13
Homeo-pathic	Hospital/Dispensary	8	21	22	-	-	1	8	21	23	162.50	4.76	-	-	162.50	9.52
	Bed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Doctor	1	15	22	-	1	1	1	16	23	1400.00	46.67	-	0.00	1500.00	43.75
Unani	Hospital/Dispensary	3	5	4	-	1	2	3	6	6	66.67	-20.00	-	100.00	100.00	0.00
	Bed	12	20	16	-	4	8	12	24	24	66.67	-20.00	-	100.00	100.00	0.00
	Doctor	3	4	4	-	2	2	3	6	6	33.33	0.00	-	0.00	100.00	0.00

Source: District Statistical Handbook, Mau, 1991–2011.

Table 3.4: Distribution of healthcare facilities across blocks (2011)

Block/District	Hospitals & dispensaries	CHCs	PHCs	SCs	Ayurvedic	Homeopathic	Unani
Doharighat	1	-	5	23	3	1	-
Ghosi	-	1	3	21	1	2	1
Badraon	1	1	4	30	3	2	-
Kopaganj	-	1	3	24	2	2	1
Fatehpur Madaun	-	1	5	30	3	2	1
Pardaha	-	-	4	19	2	1	1
Ratanpura	-	1	5	25	5	6	-
Muhammadabad Gohana	-	1	4	23	2	2	-
Ranipur	1	-	6	30	4	4	-
Mau District Rural	3	6	39	225	25	22	4
Mau District Urban	19	1	5	20	4	1	2
Mau District Total	22	7	44	245	29	23	6

Source: District Statistical Handbook, Mau, 2011.

DISTRICT MAU
DISTRIBUTION OF HEALTHCARE FACILITIES
(2011)

N

+   District Hospital
⊖   TB Hospital
⊕   Allopathic Chikitshalaya/Aushadhalaya
●   Community Health Centre
⊛   Primary Health Centre
⊠   Maternity and Child Walfare Centre
⊡   Maternity and Child Walfare Sub-centre
□   Ayurvedic Hospital
△   Homeopathic Hospital
◪   Unani Hospital

2 0 2 4
km
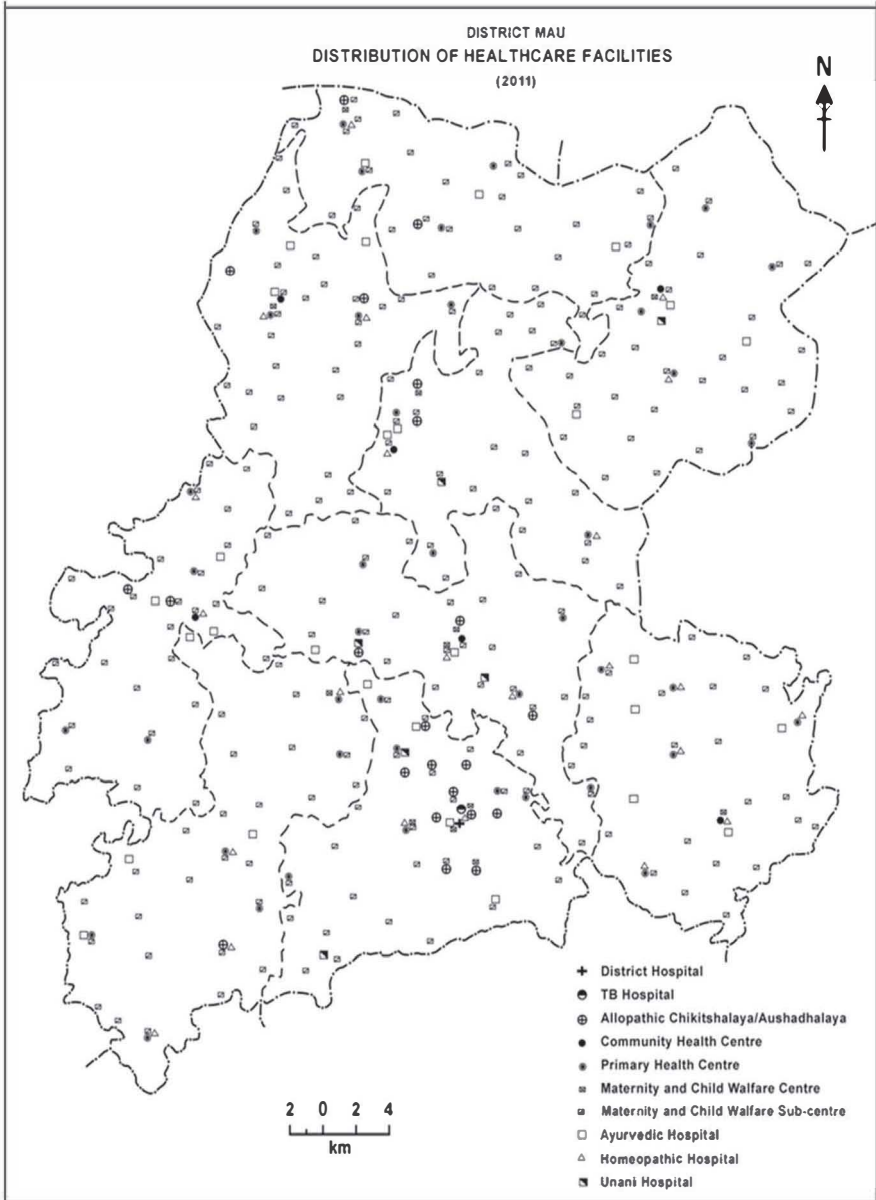
Fig 3.1

primarily in urban areas of the district (Mau, Muhammadabad, Ghosi, Doharighat, etc.), where a variety of healthcare facilities related to all the major medicinal systems, viz., allopathic, Ayurvedic and homeopathic, and specific health facilities like maternal and child welfare centres and TB hospitals, are available. Meanwhile, in rural areas either an SC or a PHC is available in a few selected villages in each block. Other healthcare facilities are absent in rural areas of the district.

3.4 Density of healthcare facilities

Density of healthcare facilities is an important indicator to ascertain the intensity of facilities in an area. The size of development blocks varies notably in the study area; thus, the density of healthcare facilities has been analysed with reference to per 100 sq km of the surface area. Healthcare facilities such as institutions (hospitals/dispensaries, CHCs and PHCs), SCs, doctors, beds, paramedical staff and other staff in 1991, 2001 and 2011 have been taken in to account (Table 3.5).

Table 3.5: Density of allopathic healthcare facilities across blocks (1991–2011)

Block/District		Density (per 100 sq km)																	
		1991						2001						2011					
		Institutions	SCs	Beds	Doctors	Paramed. Staff	Other Staff	Institutions	SCs	Beds	Doctors	Paramed. Staff	Other Staff	Institutions	SCs	Beds	Doctors	Paramed. Staff	Other Staff
Doharighat		2.49	14.97	18.71	2.49	28.68	17.46	2.35	13.50	9.39	2.93	18.19	8.21	3.52	13.50	10.56	4.69	17.02	7.63
Ghosi		1.31	13.80	15.77	1.31	26.95	24.98	2.72	12.92	8.16	1.36	22.44	10.88	2.72	14.28	24.48	6.80	21.76	10.88
Badraon		2.17	15.76	14.13	3.81	31.53	17.40	2.30	16.07	9.18	1.15	18.94	8.61	3.44	17.22	6.89	4.59	17.22	8.04
Kopaganj		2.02	13.11	8.07	2.02	22.68	16.13	1.12	12.90	4.49	0.56	15.70	7.29	2.24	13.46	6.73	2.80	15.70	7.29
Fatehpur Madaun		1.51	10.57	6.04	1.51	20.75	15.85	2.06	11.52	8.23	2.47	9.05	5.35	2.47	12.34	15.63	3.29	9.05	5.35
Pardaha		1.67	12.25	8.91	2.23	22.83	17.82	1.89	17.61	7.55	3.14	18.23	7.55	2.52	11.95	6.29	3.14	17.61	8.80
Ratanpura		3.08	11.81	27.72	5.13	26.18	14.37	3.54	11.64	27.34	5.57	18.23	15.19	3.04	12.66	20.25	3.54	18.73	14.68
Muhammadabad Gohana		1.93	16.72	7.72	1.93	28.94	22.51	2.60	13.00	10.40	3.90	22.75	9.10	3.25	14.95	24.70	5.20	22.75	7.80
Ranipur		2.16	11.69	11.25	2.60	24.67	16.88	2.70	10.37	10.82	3.16	21.64	5.41	3.16	13.52	6.31	3.16	20.73	5.41
Mau District	Rural	2.03	13.13	12.79	2.56	25.51	17.78	2.37	13.07	10.82	2.73	17.93	8.45	2.92	13.67	13.25	4.01	17.44	8.27
	Urban	35.63	3.39	359.69	42.42	122.16	37.33	23.85	16.84	202.02	58.92	47.70	131.87	35.07	28.06	213.24	65.94	50.51	133.28
	Total	3.15	12.81	24.27	3.88	28.71	18.43	3.26	13.22	18.76	5.07	19.16	13.57	4.25	14.27	21.55	6.58	18.82	13.46

Source: Calculated from District Statistical Handbook, Mau, 1991–2011.

3.4.1 Allopathic healthcare facilities

The density of healthcare facilities is uneven in different development blocks of the study area (Fig 3.2). The district has been divided into three categories on the basis of healthcare facilities density for different years (Table 3.6).

Table 3.6: Distribution of allopathic healthcare institutions in Mau district (1991–2011)

Category	Density (institutions / 100 sq km)	Names of Development Blocks		
		1991	2001	2011
Low	< 2	Fatehpur Madaun, Ghosi, Muhammadabad Gohana and Pardaha	Kopaganj and Pardaha	-
Medium	2 3	Badraon, Doharighat, Kopaganj and Ranipur	Badraon, Doharighat, Fatehpur Madaun, Ghosi, Muhammadabad Gohana and Ranipur	Fatehpur Madaun, Ghosi, Kopaganj and Pardaha
High	> 3	Ratanpura	Ratanpura	Badraon, Doharighat, Muhammadabad Gohana, Ranipur and Ratanpura

Source: Calculated from District Statistical Handbook, Mau, 1991 2011.

Allopathic Health Care Delivery System in District Mau

Note: CHC = Doharighat, Pardaha and Ranipur Development Blocks have no CHC (Ref. period Apr- Sept, 2011)
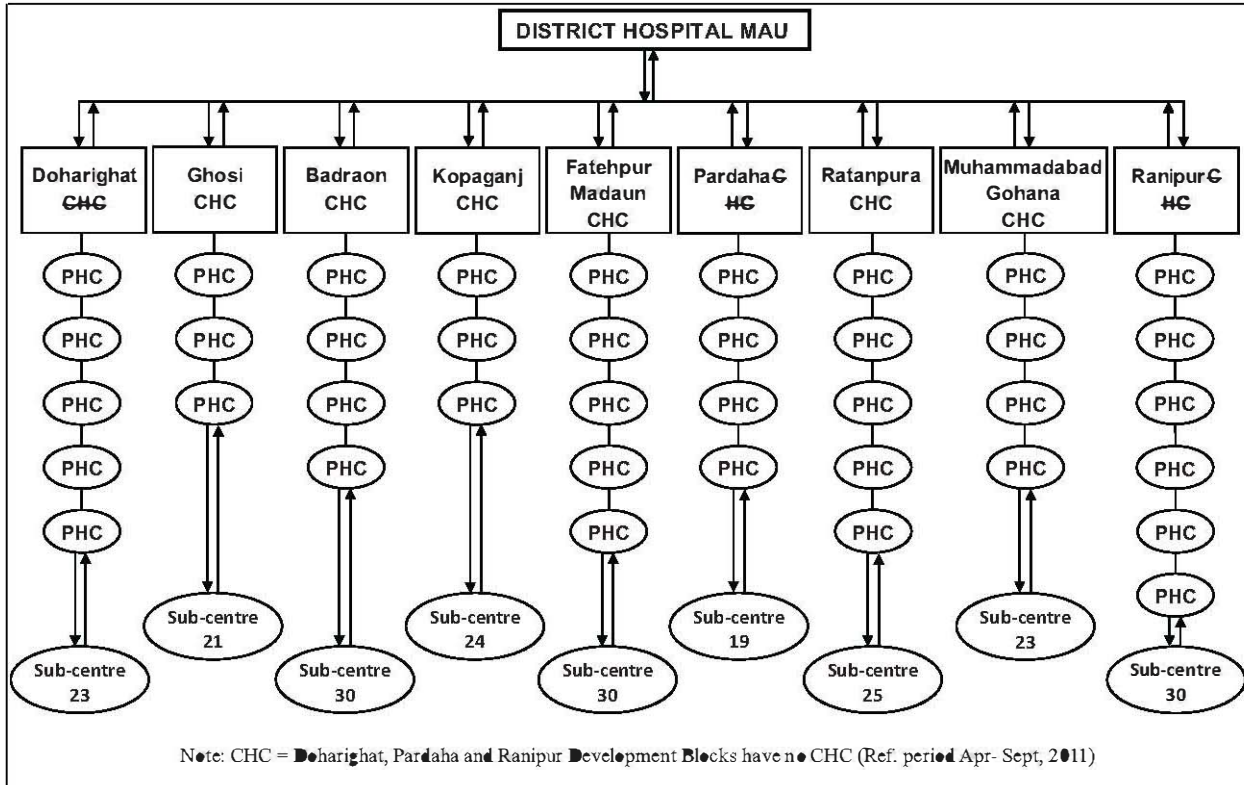
Fig 3.2

The average density of institutions in the district in 1991 was 3.15 institutions per 100sq km while the rural and urban institution densities were 2.03 and 35.63 institutions per 100sq km, respectively. Low institution density (less than 2 institutions per 100sq km) was found in certain development blocks, namely the Fatehpur Madaun (1.51), Ghosi (1.31), Muhammadabad Gohana (1.93) and Pardaha (1.67) development blocks, while only the Ratanpura (3.08) development block recorded high institution density (more than 3 institutions per 100 sq km). The Badraon (2.17), Doharighat (2.49), Kopaganj (2.02) and Ranipur (2.16) development blocks recorded moderate (2–3 institutions per 100 sq km) institution density. In 2001, the average density of the district increased to 3.26 institutions per 100 sq km. The rural institution density increased to 2.37, but the urban institution density decreased to 23.85 institutions per 100 sq km from 35.63 institutions per 100 sq km in 1991–2001. Low institution density was found in two development blocks, namely Kopaganj (1.12) and Pardaha (1.89), and high institution density was found again in only the Ratanpura development block (3.54) in 2001. Moderate institution density was found in theBadraon (2.30), Doharighat (2.35), Fatehpur Madaun (2.06), Ghosi (2.72), Muhammadabad Gohana (2.60) and Ranipur (2.70) development blocks in 2001.

The average institution density of the district in 2011 increased to 4.25 institutions per 100 sq km, while rural intuition density also increased (to 2.92) and institution density in urban areas rose from 23.85 in 2001 to 35.07 institutions per 100 sq km in 2011 (Fig 3.3). Low institution density was not found in any development block in 2011, while high institution density (more than 3 institutions per 100 sq km) was reduced in the Badraon (3.44), Doharighat (3.52), Muhammadabad Gohana (3.25), Ranipur (3.16) and Ratanpura (3.04) development blocks. The rest of the development blocks have moderate institution density (2–3 institutions per 100 sq km).

A health SC is the first contact point for rural peoples in terms of public healthcare in case of illness and for immunisation and family welfare programmes provided by the government. The average SC density of the district was 12.81 health SCs per 100 sq km; for the rural and urban areas, health SC density was 13.13 and 3.39 health SCs per 100 sq km, respectively. Low density of health SC (less than 13 health SC per 100 sq km) was found in the Fatehpur Madaun (10.57), Pardaha (12.25), Ranipur (11.69) and Ratanpura (11.81) development blocks, while the Muhammadabad development block recorded high health SC density (more than16 health SCs per 100 sq km). The Badraon (15.76), Doharighat

DISTRIBUTION OF HEALTHCARE FACILITIES AND TRANSPORT NETWORK
DISTRICT MAU

N

From Gorakhpur

Ghaghra River

To Belthara Road

To Bansdih

From Azamgarh

From Azamgarh

Tons River

From Azamgarh

To Ballia

To Bhatni

From Azamgarh

Bhaisahi River

To Ballia

From Mehnagar

Manger River

Bhaisahi River

Tons River

Chhoti Sarju River

To Varanasi

To Ghazipur

Symbol	Facility
+	District Hospital
⊖	TB Hospital
⊕	Allopathic Chikitshalaya/Aushadhalaya
●	Community Health Centre
◔	Primary Health Centre
▬	Maternity and Child Walfare Centre
⌧	Maternity and Child Walfare Sub-centre
□	Ayurvedic Hospital
△	Homeopathic Hospital
℈	Unani Hospital

NH-29 — National Highway
SH-34 — State Highway
– – – Boundary Vikas Khand
——— Other Mettled Road
++++ Railway Line: Mt. & Broad Gauge
∿∿ River and Stream

2 0 2 4
km

Fig 3.3

(14.97), Ghosi (13.80) and Kopaganj (13.11) development blocks recorded moderate (13–16 health SCs per 100 sq km) health SC density. The average health SC density of the district was increased to 13.22 health SCs per 100 sq km, while the rural health SC density of the district decreased to 13.02 health SCs per 100 sq km and the urban health SC density of the district increased to 16.84 health SCs per 100 sq km in 2001. Low density of SCs was found in the Fatehpur Madaun (11.52), Ghosi (12.92), Kopaganj (12.90), Ranipur (10.37) and Ratanpura (11.26) development blocks, while the Doharighat (13.50) and Muhammadabad Gohana (13.00) development blocks recorded moderate density of health SCs and the Badraon and Pardaha development blocks recorded high density of health SCs in 2001.

The district density of health SCs in 2011 increased to 14.27 health SCs per100 sqkm; the rural and urban densities of health SCs of the district also increased to 13.67 and 28.06 health SCs per 100 sq km, respectively. A low density of health SCs (less than 13 health SCs per 100 sq km) is found in Fatehpur Madaun (12.34), Pardaha (11.95) and Ratanpura (12.66), while only one development block—Badraon—recorded high density of health SCs (more than 16 health SCs per 100 sq km). Distribution of health SCs in other development blocks, namely Doharighat (13.50), Ghosi (14.28), Kopaganj (13.46), Muhammadabad Gohana (14.95) and Ranipur (13.25), in 2011 are in the moderate category range (13–16 health SCs per 100 sq km).

The analysis of Table 3.7 shows that there was an uneven distribution of health SCs in the district, and in rural and urban areas of the district, during the entire study period under consideration.

Density of beds is an important indicator for determining the intensity of healthcare institutions as well as the strength of healthcare institutions. On average, 24.27 beds per 100 sq km were found available in the district in 1991, while the rural and urban bed densities were 12.79 and 359.69 beds per 100 sq km, respectively. The distribution pattern of beds is uneven in the district. Low density of bed distribution (less than 13 beds per 100 sq km) was found in development blocks namely Fatehpur Madaun (6.04), Kopaganj (8.07), Muhammadabad Gohana (7.72), Pardaha (8.91) and Ranipur (11.25) while only one development block (Ratanpura 27.72) recorded a high density (more than 16 beds per 100 sq km) of beds. Development blocks namely Badraon (14.13), Doharighat (18.71) and Ghosi (15.77) recorded moderate density (13-16 beds per 100 sq km) of bed in 1991. In 2001, bed density of the district was decreased to 18.76

beds per 100 sq km. The rural and urban bed density was also decreased to 10.82 and 202.02 beds per 100 sq km respectively. The distribution pattern of bed density in all the development blocks recorded in low category (less than 13 beds per 100 sq km) of bed density except Ratanpura (17.61) development block that reported having more than 16 beds per 100 sq km in 2001.

Table 3.7: Distribution of health SCs in Mau district (1991–2011)

Category	Density (SC / 100 sq km)	Names of Development Blocks		
		1991	2001	2011
Low	< 13	Fatehpur Madaun, Pardaha, Ranipur and Ratanpura	Fatehpur Madaun, Ghosi, Kopaganj, Ranipurand Ratanpura	Fatehpur Madaun, Pardaha and Ratanpura
Medium	13 16	Badraon, Doharighat, Ghosi and Kopaganj	Doharighat and Muhammadabad Gohana	Doharighat, Ghosi, Kopaganj, Muhammadabad Gohanaand Ranipur
High	> 16	Muhammadabad Gohana	Badraon and Pardaha	Badraon

Source: Calculated from District Statistical Handbook, Mau, 1991 2011.

Average bed density of the district in 2011 increased to 21.25 beds per 100 sq km while rural and urban bed densities also increased to 13.25 and 213.24 beds per 100 sq km, respectively. Low bed density (less than 13 beds per 100 sq km) was found in the Badraon (6.89), Doharighat (10.56), Kopaganj (6.73), Pardaha (6.29) and Ranipur (6.31)development blocks, while moderate bed density (13–16 beds per 100 sq km) was recorded in only one development block (Fatehpur Madaun - 15.63)and high bed density (more than 16 beds per 100 sq km) was recorded in the Ghosi (24.48), Muhammadabad Gohana (24.70) and Ratanpura (20.25) developments blocks in 2011. Table 3.8 shows that the distribution pattern of bed density is uneven and has shown declining trends during 1991–2001 and unbalanced increasing trends during 2001-2011.

Table 3.8: Distribution of beds in Mau district (1991–2011)

Category	Density (Bed / 100 sq km)	Names of Development Blocks		
		1991	2001	2011
Low	< 13	Fatehpur Madaun, Kopaganj, Muhammadaba d Gohana, Pardahaand Ranipur	Badraon, Doharighat, Fatehpur Madaun, Ghosi, Kopaganj, Muhammadaba d Gohana, Pardaha and Ranipur	Badraon, Doharighat, Kopaganj, Pardahaand Ranipur
Medium	13 16	Badraon, Doharighatand Ghosi	-	Fatehpur Madaun
High	> 16	Ratanpura	Ratanpura	Ghosi, Muhammadab ad Gohana and Ratanpura

Source: Calculated from District Statistical Handbook, Mau, 1991 2011.

Density of doctors is directly proportional to the utilisation of healthcare facilities because the doctors are called the backbone of the healthcare system. The average density of doctors in the district was 3.88 doctors per 100 sq km in 1991, while the rural and urban doctor densities in the district were 2.56 and 42.42 doctors per 100 sq km, respectively. Low density of doctors (less than3doctors per 100 sq km) was found in all the development blocks of the district except the Badraon (3.81) and Ratanpura (5.13) development blocks in 1991. The Badraon and Ratanpura development blocks recorded moderate (3–5 doctors per 100 sq km) and high (more than 5doctors per 100 sq km) densities of doctor distribution, respectively. In 2001, the doctor density of the district was increased to 5.07 per 100 sq km. The rural and urban densities of doctors in the district also increased to 2.73 and 58.92 doctors per 100 sq km, respectively. The pattern of the doctor distribution in the study area was found to be uneven. Low doctor density (less than 3doctors per 100 sq km) was found in the Badraon (1.15), Doharighat (2.95), Fatehpur Madaun (2.47), Ghosi (1.36) and Kopaganj (0.56) development blocks, while the Ratanpura (5.57) development block recorded high density of doctors (more than 5doctors per 100 sq km). Other development blocks were

found in the category of moderate density of doctors (3–5 doctors per 100 sq km).

Doctor density in the district increased to 6.58 doctors per 100 sq km in 2011; the rural and urban densities of doctors in the district also increased to 4.01 and 65.94 doctors per 100 sq km, respectively. In this year, two-thirds of the development blocks of the district were found in the moderate category (3–5 doctors per 100 sq km) of density of doctors. Some blocks, namely Badraon (4.59), Doharighat (4.69), Fatehpur Madaun (3.29), Pardaha (3.14), Ranipur (3.16) and Ratanpura (3.54), have improved. Only one development block - Kopaganj (2.80) - was recorded as having low density of doctors (less than 3doctors per 100 sq km). In the Ghosi and Muhammadabad Gohana development blocks, high density of doctors (more than 5doctors per 100 sq km) was recorded. The analysis of Table 3.9 shows that there is imbalance but an increasing trend of doctor density in the study area.

Table 3.9: Distribution of doctors in Mau district (1991–2011)

Category	Density (Doctor / 100 sq km)	Names of Development Blocks		
		1991	2001	2011
Low	< 3	Doharighat, Fatehpur Madaun, Ghosi, Kopaganj, Muhammadabad Gohana, Pardahaand Ranipur	Badraon, Doharighat, Fatehpur Madaun, Ghosi and Kopaganj	Kopaganj
Medium	3 5	Badraon	Muhammadabad Gohana, Pardaha and Ranipur	Badraon, Doharighat, Fatehpur Madaun, Pardaba, Ranipurand Ratanpura
High	> 5	Ratanpura	Ratanpura	Ghosiand Muhammadabad Gohana

Source: Calculated from District Statistical Handbook, Mau, 1991 2011.

Density of paramedical staff is an important indicator in terms of healthcare facilities because paramedics help the doctors at time of treatment and provided timely services such as immunisation and family welfare programmes to patients and other people. The average density of paramedical staff in the district was 28.71per 100 sq km, whereas the rural and urban densities of the paramedical staff in the district were 25.51 and 122.16 per 100 sq km, respectively, in 1991. Compared to 1991, a decrease in density of paramedical staff was noticed. The rural and urban densities of paramedical staff in the district also decreased to 17.93 and 47.70 per 100 sq km, respectively. The distribution pattern of paramedical staff remained inconsistent. Many development blocks, namely Badraon (18.94), Doharighat (18.19), Pardaha (18.23) and Ratanpura (18.23), were found in the moderate category (17–20 per 100 sq km). A high density (more than 20 per 100 sq km) of paramedical staff was recorded in the Ghosi (22.44), Muhammadabad Gohana (22.75) and Ranipur (21.64) development blocks. Low density (less than17 per 100 sq km) of paramedical staff was found in only two development blocks: Fatehpur Madaun (9.05) and Kopaganj (15.70).

Density of paramedical staff in the district increased to 18.82 paramedical staff per 100 sq km in 2011, whereas the rural paramedical staff density of the district decreased to 17.44per 100 sq km and the urban density of the district increased to 50.51per 100 sq km. The continuing inconsistent distribution of paramedical staff across different blocks of the district is due to the mismanagement of the responsible authority and the government. Table 3.10 shows the decreasing trend in the density of paramedical staff in 1991–2011.

Density of other staff members is another important indicator because they help in the sanitation, hygiene, management and smooth running of the health plans designed by the health authority and the government. The average density of other staff in the study area was 18.76 per 100 sq km, whereas the rural and urban densities of other staff in the study area were 17.78 and 37.33 per 100 sq km in 1991, respectively. A low-density (less than 10 per 100 sq km) pattern of other staff was not found in any development block of the study area in 1991, while a high-density (more than 15per 100 sq km) pattern of other staff was found in many development blocks, namely Badraon (17.40), Doharighat (17.46), Fatehpur Madaun (15.85), Ghosi (24.98), Kopaganj (16.13), Muhammadabad Gohana (22.51), Pardaha (17.82) and Ranipur (16.88). Only the Ratanpura development block recorded moderate density (10–15per 100 sq km) of other staff in the study area. But in 2001, density of

other staff in the district was decreased to 13.57other staff membersper100 sq km, while density of other staff in the rural area decreased to 8.45other staff membersper100 sq km and the urban density of other staff of the study area increased to 132.87per 100 sq km. In this year, many development blocks had low density (less than10 per 100 sq km), namely Badraon (8.61), Doharighat (8.21), Kopaganj (7.29), Fatehpur Madaun (5.35), Muhammadabad Gohana (9.10), Pardaha (7.55) and Ranipur (5.41), whereas the Ghosi (10.88) development block recorded moderate density (10–15per 100 sq km) and only the Ratanpura development block recorded high density (more than15per 100 sq km) in the study area.

Table 3.10: Distribution of paramedical staff in Mau District (1991– 2011)

Category	Density (Paramedical Staff / 100 sq km)	Names of Development Blocks		
		1991	2001	2011
Low	< 17	-	Fatehpur Madaun and Kopaganj	Fatehpur Madaun and Kopaganj
Medium	17 20	-	Badraon, Doharighat, Pardaha and Ratanpura	Badraon, Doharighat, Pardahaand Ratanpura
High	> 20	Badraon, Doharighat, Fatehpur Madaun, Ghosi, Kopaganj, Muhammadabad Gohana, Pardaha Ranipur and Ratanpura	Ghosi, Muhammadabad Gohana and Ranipur	Ghosi, Muhammadabad Gohana and Ranipur

Source: Calculated from District Statistical Handbook, Mau, 1991 2011.

Density of other staff in the district again decreased to 13.46 per 100 sq km. The density of other staff in rural areas of the district also decreased to 8.27per 100 sq km, but during the same period density of other staff in the urban centres of the district increased to 133.28per 100 sq km (Table 3.4). The distribution pattern of other staff is highly disproportionate. The analysis of Table 3.11 shows that there is a decreasing trend in the density

of other staff due to retirement, transfer in urban areas and absence of new recruitment.

Table 3.11: Distribution of other staff in Mau District (1991–2011)

Category	Density (other staff/ 100 sq km)	Names of Development Blocks		
		1991	2001	2011
Low	< 10	-	Badraon, Doharighat, Fatehpur Madaun, Kopaganj, Muhammadabad Gohana, Pardahaand Ranipur	Badraon, Doharighat, Fatehpur Madaun, Kopaganj, Muhammadabad Gohana, Pardaha and Ranipur
Medium	10 15	Ratanpura	Ghosi	Ghosiand Ratanpura
High	> 15	Badraon, Doharighat, Fatehpur Madaun, Ghosi, Kopaganj, Muhammadabad Gohana, Pardaha and Ranipur	Ratanpura	-

Source: Calculated from District Statistical Handbook, Mau, 1991 2011.

3.5 Availability of healthcare facilities

Improved health status of individuals not only indicates greater human development but is also an important parameter of economic development. The Constitution of India recognises it as a duty of the government to provide primary healthcare services (Bajpaietal. 2005). It is important to ensure the availability of healthcare services to every individual. Poor manpower availability and infrastructure facilities more often discourage individuals from accessing and availing themselves of the services of these health facilities. Institutional arrangements such as large infrastructure and qualitative changes to aspects like availability of medicines, presence of doctors and availability of basic amenities at healthcare institutions are to be made on a sustained basis if we want to attract the poor to use the public health facilities with confidence. The availability of healthcare

facilities is therefore to be analysed. The changes over a period of twenty years have been mapped for the village-/development-block-level units in this study to show improvement or deterioration in the availability of the healthcare facilities. Availability in different development blocks of the district is not consistent in terms of population distribution/density; therefore, the availability of healthcare facilities (e.g. number of medical institutions, health SCs, beds, doctors, paramedical staff and other staff members per 100,000 people) has been taken into consideration.

The average number of institutions in the district is 3.87 per lakh people, though there is a wide gap between the urban and rural institutions. It is noticed that in the urban areas this proportion is exceptionally high with 8.61per lakh people, whereas the average figure for the rural area is 2.91per lakh people (Fig 3.4). The big rural-urban divide in the number of institutions per lakh people is due to the fact that all the CHCs are located in the small towns and the district hospital is in the lone town - i.e., district headquarters Mau. It is disturbing to note that the number of institutions per lakh people shows a declining trend in 1991–2011 in both urban and rural areas. There is marked intra-district variation in the distribution of healthcare facilities. Development block-wise, it can be seen that Ratanpura had a high number of institutions per lakh people in 1991, but it has declined in 2001, and further decline is noticed in 2011 (Table 3.12). Other development blocks had numbers of institutions per lakh people below the district average in 1991. But in 2001, the Ranipur development block reported a better proportion of healthcare facilities in comparison with that of the district average and the Doharighat development block was above the district average in 2011. In 1991, the number of SCs per lakh people was 18.91 in rural areas and the district average figure was 15.77. It was remarkably good in the Badraon and Ghosi development blocks. The same declined from 15.77 in 1991 to 12.23 in 2001 and to another low level, 10.31, in 2011.With growth in population, there is noticeable sharp decline in the number of SCs per lakh people, which is not a healthy sign.

DISTRCT MAU
DISTRIBUTION OF POPULATION AND HEALTH CARE FACILITIES

Persons

1,00,000

50,000

20,000

10,000

5,000

200

N

Legend:
- Maternity and Child Walfare Centre
- Maternity and Child Walfare Sub-centre
- Ayurvedic Hospital
- Homeopathic Hospital
- Unani Hospital
- District Hospital
- TB Hospital
- Allopathic Chikitshalaya/Aushadhalaya
- Community Health Centre
- Primary Health Centre

2 0 2 4
km

Fig 3.4

As far as the number of beds in the health institutions is concerned, in 1991 it was much higher in urban areas (86.89 per lakh people) than in the rural areas (18.31per lakh people).The same has declined over the next two decades and in 2011 it dropped to 15.56 as compared to33.5 per lakh people in 1991 for the district. There are wide variations in the availability of beds per lakh people in the different development blocks—some very high, while some are fairly low. As far as the number of doctors per lakh people is concerned, in 1991 it was higher in urban areas (10.25 per lakh people) than in the rural ones (3.66 per lakh people).

The district average in 1991 was 4.77 per lakh people, while it showed a decline between 1991and 2001 (4.69) but a marginal increase during 2001–11 (4.75). The Ratanpura (8.27) development block has more doctors to serve the population; meanwhile, Ghosi (1.91) had the least in 1991, but in 2011 inter-development-block gaps had declined considerably. Ghosi, which had the smallest number of doctors per lakh people in 1991, reported the highest in 2011 (Table 3.12).

It is noted that more paramedical staff per lakh people are available in the rural areas (36.53 per lakh people), compared to the urban areas (29.51 per lakh people); unfortunately, this also shows a declining trend over the next two decades. The higher number in rural areas indicates that the populations in rural areas are treated for routine illnesses by these paramedical staff even in the public healthcare system. The development blocks, which had more paramedical staff per lakh people than the district average in 1991, have also show a decline in the number of paramedical staff per lakh people during 1991–2011.The other staff includes the sweepers, attendants, clerks, gatekeepers and others who are mostly engaged in non-medical activities at the health institutions. In the district, the number of other staff members per lakh people has declined from 22.69 per lakh people in 1991 to 12.57 per lakh people in 2001 and to 9.72 per lakh people in 2011. There has been a gradual decline in the urban and rural areas and the development blocks of the district.

Table 3.12: Distribution of allopathic healthcare facilities across blocks (1991–2011)

Block/ District		Healthcare facilities per lakh people																	
		1991						2001						2011					
		Institutions	SC	Beds	Doctors	Paramed. Staff	Other Staff	Institutions	SC	Beds	Doctors	Paramed. Staff	Other Staff	Institutions	SC	Beds	Doctors	Paramed. Staff	Other Staff
Doharighat		3.11	18.65	23.32	3.11	35.75	21.76	2.58	14.82	10.31	3.22	19.97	9.02	3.21	12.29	9.62	4.27	15.49	6.95
Ghosi		1.91	20.01	22.87	1.91	39.06	36.20	2.96	14.04	8.87	1.48	24.39	11.82	2.29	12.04	20.63	5.73	18.34	9.17
Badraon		3.13	22.68	20.33	5.47	45.36	25.02	2.49	17.42	9.96	1.24	20.53	9.33	2.97	14.85	5.94	3.96	14.85	6.93
Kopaganj		2.84	18.48	11.37	2.84	31.99	22.75	1.10	12.65	4.40	0.55	15.40	7.15	1.70	10.21	5.10	2.13	11.91	5.53
Fatehpur Madaun		2.64	18.51	10.58	2.64	36.36	27.77	2.62	14.69	10.50	3.15	11.55	6.82	2.50	12.50	15.83	3.33	9.17	5.42
Pardaha		2.35	17.21	12.52	3.13	32.07	25.03	2.30	21.44	9.19	3.83	22.20	9.19	3.00	14.24	7.49	3.75	20.99	10.49
Ratanpura		4.96	19.01	44.63	8.27	42.15	23.14	4.38	14.39	33.78	6.88	22.52	18.77	2.84	11.84	18.94	3.31	17.52	13.73
Muhammadabad Gohana		2.07	17.90	8.26	2.07	30.98	24.09	2.18	10.92	8.74	3.28	19.12	7.65	2.17	9.97	16.47	3.47	15.17	5.20
Ranipur		3.24	17.50	16.86	3.89	36.95	25.28	3.05	11.71	12.22	3.56	24.44	6.11	2.80	11.99	5.60	2.80	18.39	4.80
Mau District	Rural	2.91	18.81	18.31	3.66	36.53	25.46	2.61	14.39	11.92	3.01	19.75	9.31	2.59	12.12	11.74	3.56	15.46	7.33
	Urban	8.61	0.82	86.89	10.25	29.51	9.02	4.72	3.33	39.96	11.65	9.43	26.08	4.70	3.76	28.56	8.83	6.76	17.85
	Total	3.87	15.77	29.88	4.77	35.34	22.69	3.02	12.24	17.37	4.69	17.75	12.57	3.07	10.31	15.56	4.75	13.59	9.72

Source: Calculated from District Statistical Handbook, Mau, 1991–2011.

Table 3.13: Pattern of gap between required and existing PHCs and SCs across different blocks (1991–2011)

Development block	1991						2001						2011*					
	PHCs			SCs			PHCs			SCs			PHCs			SCs		
	R	E	G	R	E	G	R	E	G	R	E	G	R	E	G	R	E	G
Doharighat	4	3	1	26	24	2	5	3	2	31	23	8	6	5	1	35	23	12
Ghosi	4	2	2	21	21	0	5	3	2	27	19	8	5	3	2	31	21	10
Badraon	4	3	1	26	29	+3	5	3	2	32	28	4	6	4	2	37	30	7
Kopaganj	5	4	1	28	26	2	6	2	4	36	23	13	7	3	4	42	24	18
Fatehpur Madaun	5	4	1	30	28	2	6	5	1	38	28	10	7	5	2	44	30	14
Pardaha	4	3	1	26	22	4	4	3	1	26	28	+2	5	4	1	30	19	11
Ratanpura	4	6	+2	24	23	1	5	6	+1	32	23	9	6	5	1	37	25	12
Muhammadabad Gohana	5	3	2	29	26	3	6	4	2	37	20	17	7	4	3	42	23	19
Ranipur	5	4	1	31	27	4	7	5	2	39	23	16	7	6	1	45	30	15

Source: Calculated from district statistical handbook, Mau, 1991–2011.

Note: *Projected population used for 2011, (R= Required, E= Existing and G= Gap)

3.6 Gap between required and existing healthcare facilities

The gap between the existing facilities and required facilities as per the set norms reflect the distance that the efforts have to cross before we start talking about changing the norm along with the changes over time and changes in the nature of disease the society is encountering in the 21st century. With time, the population is increased, but unfortunately the healthcare facilities have mostly been the same. This trend portrays an insensitive approach, if not one detrimental to human development, of the prime pillar of development. The healthcare facilities are apt to grow in number and also a qualitative change is needed with changing epidemiology. In the study area, the scenario is totally different from what it usually should be. Compared to 1991, the situation has worsened over the years—i.e., in 2001 and 2011. The gaps in the number of PHCs and SCs have become wider.

In 1991, it was only in the Ratanpura and Badraon development blocks that the number of PHCs and SCs were more than what was required. The Muhammadabad Gohana and Ghosi development blocks were short of their required norm of PHCs, whereas Pardaha and Ranipur development blocks were far behind their set norms. The average number of shortage of PHCs in all the blocks was 1 in 1991 and this increased to 2 in 2001 and 2011. In 2001, the condition was better in the Fatehpur Madaun, Pardaha and Ratanpura development blocks, but it became worse in the Kopaganj development block as the gap had increased to 4 from 1 in 1991. Similarly, in the case of SCs, the Pardaha and Badraon development blocks had a smaller gap than the other development blocks. The gap was very high in the Kopaganj (13), Muhammadabad Gohana (17) and Ranipur (16) development blocks. The Pardaha development block had more SCs than it required.

In 2011, the gap in the number of PHCs was highest in the case of the Kopaganj (4) and Muhammadabad Gohana (3) development blocks. The gap was smaller in the Doharighat, Pardaha, Ranipur and Ratanpura development blocks. No development blocks had more PHCs than the required numbers. The trend of the gap in terms of the required number of SCs and the existing SCs is similar. The Muhammadabad Gohana development block was worst with 19short of the required number of healthcare institutions, followed by the Kopaganj and Ranipur development blocks with 18 and 15, respectively. Overall, we can conclude that three development blocks have performed poorly, and the gap between the population and the total number of PHCs and SCs has

progressively increased in these three development blocks, making a dent in the healthcare accessibility. These development blocks are Kopaganj, Muhammadabad Gohana and Ranipur. It is pertinent to mention here that a trend of gradual increase in the gap of SCs is observed in all the development blocks, which is alarming.

3.7 Conclusions

A larger percentage of the population, as well as of villages, has access to the nearest PHCs, whereas Ranipur, Pardaha, Fatehpur Madaun and Kopaganj have higher percentages of villages and populations with no access to the nearest PHC. Hence, it can be summed up that the healthcare facilities in the allopathic domain show a declining trend in terms of population, leaving a few, over the two decades, which is not a good sign as it is bound to create more pressure for the existing over-burdened facilities. There is an urgent need to increase the number of beds and staff (paramedical, doctors and others) in the district in order to provide easy access to healthcare facilities. Institutional arrangements such as large infrastructure and qualitative changes in aspects like availability of medicines, presence of doctors and availability of basic amenities at healthcare institutions are to be made on a sustained basis if we want to attract the poor to use the public health facilities with confidence.

CHAPTER 4

UTILISATION OF HEALTHCARE FACILITIES

In rural India, healthcare services are provided through the network of PHCs and SCs. Over time, the number of healthcare services has increased. However, it is clear from numerous studies that the mere provision of services does not eventually lead to their better utilisation. Utilisation of health services is a complex phenomenon which, on the one hand, is influenced by the perception of an individual about the need for services, thereby incentivising him/her to take a decision to utilise them and, on the other hand, by the availability, accessibility and organisational aspect of health services (Murali 1981). In general, it is difficult to explore differences in utilisation because the availability of services itself varies greatly across different locations. The use of allopathic medicines is more popular among the people as it is readily available and perceived as instant relief from pain. In district Mau it is evident that more than 80 per cent of people are using the allopathic system of medicine (Table 4.1). Utilisation of each medicine system is varied according to the level of education, income and residence of individuals (Fig 4.1 and 4.2).

Table 4.1: Use of dominant medicine system across place of residence

Place of residence		Allopathic	Ayurvedic	Homeopathic	Total
Rural	Number	525	33	62	620
	Per cent	84.70	5.30	10.00	100.00
Urban	Number	48	6	6	60
	Per cent	80.00	10.00	10.00	100.00
Total	Number	573	39	68	680
	Per cent	84.30	5.70	10.00	100.00

Source: Field survey (Mau), 2015.
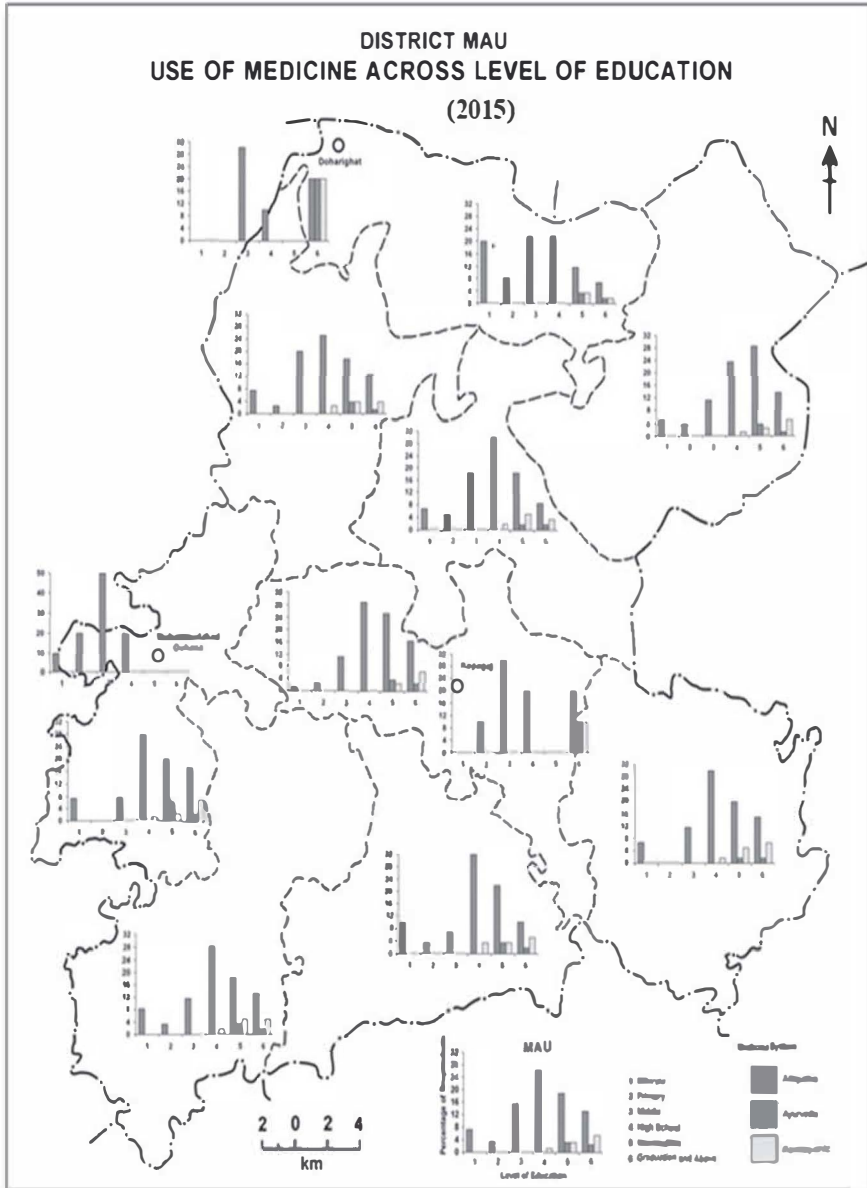
Fig 4.1
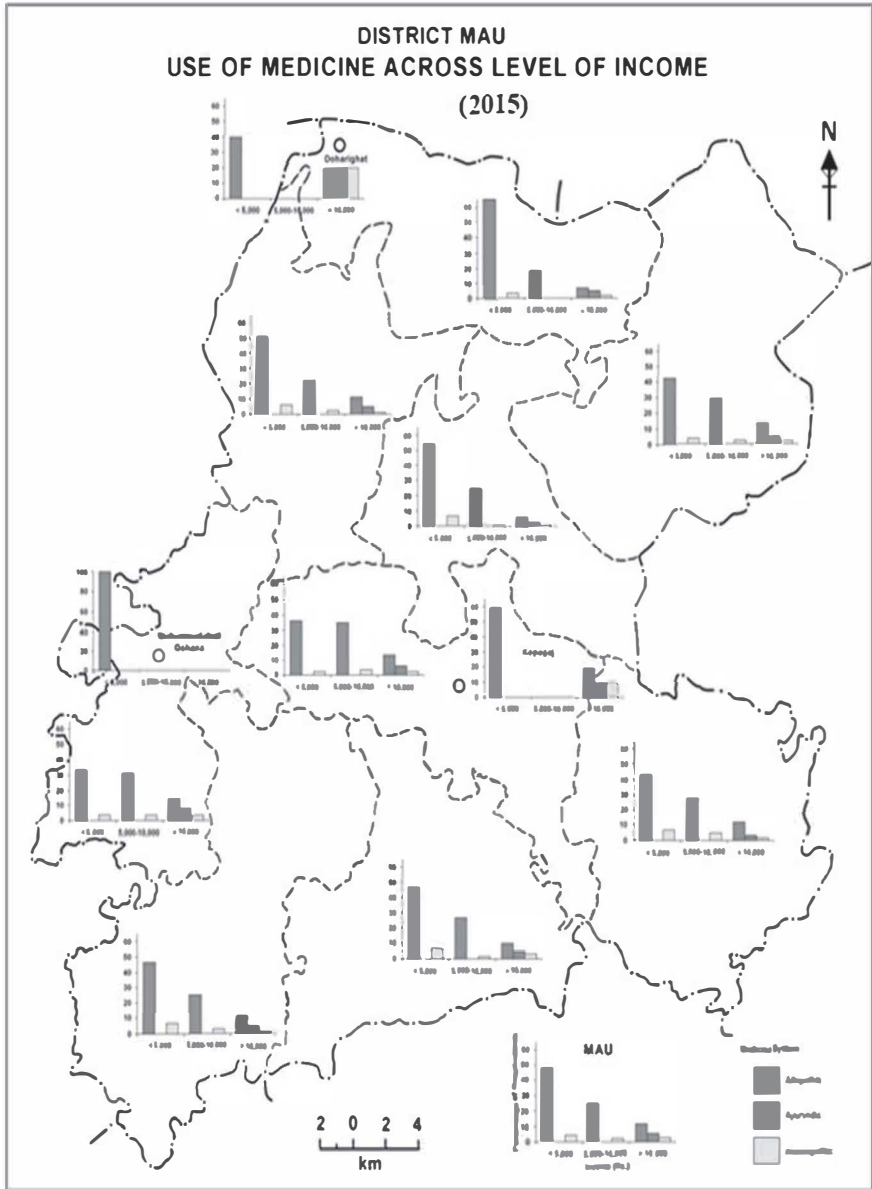
Fig 4.2

A number of complex and often interrelated variables appear to influence the utilisation of health services. Scholars such as Phillips (1981), Eyles and Woods (1983), and Joseph and Phillips (1984) in their respective studies have pointed out that utilisation is influenced not only by the relative locations of facilities but also by individual characteristics such as a patient's age, sex, marital status, social class, income and religion. Several scholars (Nag 1983; Jain 1985; Kumra and Singh 1994; Kumari et al. 2006) have argued that geographic differences have their impact on the use of healthcare facilities in India. The findings of these studies suggest further examination of the utilisation pattern of healthcare facilities and its determinants at micro level.

Keeping this in mind, this chapter attempts to bring out the relationship between socio-economic characteristics of the people and their utilisation pattern of healthcare facilities in the study area. An attempt is also made to identify the factors which affect utilisation patterns of healthcare facilities. The next section of this chapter discusses the nature of the treatment of the people in the district of Mau and related explanatory factors.

4.1 First visit in case of illness

Availability, accessibility, affordability and reliability of healthcare facilities determine the choice of first visit in case of illness. In the study area, out of 680 households, 89 (13.10 per cent) sought the help of quacks as the first healing point, while 181 (26.60 per cent) respondents visited CHCs and 313 (46.00 per cent) respondents visited private hospitals. Easy availability, timely help, low expense and frequent visits to household members are the main reasons behind the high dependency upon private hospitals. Distance to health facilities coupled with poor transportation resulted in low utilisation of public healthcare facilities; 8.80 per cent of respondents visited district hospital and 4.30 per cent of respondents visited PHCs. The comparatively high use of CHCs is due to the fact that flagship programmes like mother-child and immunisation programmes are run through CHCs, apart from the fact that there is assured presence of doctors at CHCs.

The socio-economic and demographic variables discussed in this section include place of residence, religion, social groups (caste), family structure, monthly income of households, age, education and occupation of the respondents.

4.1.1 Place of residence

Place of residence is one of the most important factors that affect the choice of first treatment because there has been a significant locational bias in availability of healthcare facilities and their accessibility. All the CHCs and most of the functioning PHCs are located in small urban centres of the district like Adari, Amila, Doharighat, Ghosi, Kopaganj, Kurthijafarpur and Muhammadabad Gohana. Hence, about one-fourth of the total families utilise facilities available at CHCs. Utilisation of government healthcare facilities by families living in urban areas is higher in comparison to those in the villages. Utilisation of available health facilities at the district hospital is poor among both rural and urban areas for two main reasons: first, its location in the largest urban centre of the district, where a sufficient number of good private hospitals provide perceptibly better health services; and second, they are found suitable for critical diseases, not as a place of first visit in case of illness. A little less than 50 per cent of the families in rural areas and a little more than one-third of the families in urban areas are utilising private healthcare facilities for first visits. Hence, utilisation of government healthcare facilities is lower than utilisation of private healthcare facilities in the district. Further, utilisation of government healthcare facilities is higher in urban areas while utilisation of private healthcare facilities and dependency on quacks is higher in rural areas for first treatment.

Table 4.2: First treatment in case of illness across place of residence

Residence		First visit in case of illness						Total
		District hospital	CHC	PHC	Private hospital	Quack	Tradition al healer	
Rural	Number	56	161	20	291	84	8	620
	Per cent	9.00	26.00	3.20	46.90	13.50	1.30	100.00
Urban	Number	4	20	9	22	5	-	60
	Per cent	6.70	33.30	15.00	36.70	8.30	-	100.00
Total	Number	60	181	29	313	89	8	680
	Per cent	8.80	26.60	4.30	46.00	13.10	1.20	100.00

Source: Field survey (Mau), 2015.

4.1.2 Sex

There is a striking difference in utilisation of healthcare facilities by men and women. CHCs have been utilised by females more than males for first visits in case of illness. However, utilisation of other government healthcare facilities, i.e., the district hospital and PHCs, among females is very poor. Further, a little less than one-fourth of the total females are still dependent on quacks for first visits in case of illness. About 50 per cent of the males visit private hospitals first in case of illness. A sufficient percentage (37.10) of the male population has utilised government health facilities for a first visit (Table 4.3).

Table 4.3: First treatment in case of illness across sex

Respondent sex		District hospital	CHC	PHC	Private hospital	Quack	Traditional healer	Total
		First visit in case of illness						
Male	Number	57	112	35	270	55	6	535
	Per cent	10.70	20.90	6.50	50.50	10.30	1.10	100.00
Female	Number	3	59	4	43	34	2	145
	Per cent	2.10	40.70	2.80	29.70	23.40	1.40	100.00
Total	Number	60	171	39	313	89	8	680
	Per cent	8.80	25.10	5.70	46.00	13.10	1.20	100.00

Source: Field survey (Mau), 2015.

4.1.3 Religion

First visit to healthcare facilities differs according to religion in the study area. Table 4.4 reflects that a high percentage of both Hindus and Muslims consulted private hospitals in case of illness. However, utilisation of healthcare facilities by Muslims is lower in comparison to Hindu families. Consequently, a little more than one-third of Muslim families are still dependent on quacks/informal healers (hakims) for treatment.

Table 4.4: First treatment in case of illness across religions

Religion		First visit in case of illness						Total
		District hospital	CHC	PHC	Private hospital	Quack	Traditional healer	
Hindu	Number	52	164	21	261	64	7	569
	Per cent	9.10	28.80	3.70	45.90	11.20	1.20	100.00
Muslim	Number	3	25	2	42	38	1	111
	Per cent	2.70	22.50	1.80	37.80	34.20	0.90	100.00
Total	Number	55	189	23	303	102	8	680
	Per cent	8.10	27.80	3.40	44.60	15.00	1.20	100.00

Source: Field survey (Mau), 2015.

4.1.4 Social group

In the study area, nearly 70 per cent of the total population resides in rural areas. In Indian villages, caste is one of the determinants of one's lifestyle. It symbolises the social and economic status of the people in society. All the castes in the study area have been broadly grouped into three social groups, i.e., unreserved castes, other backward castes (OBCs) and scheduled castes (SCs).

Table 4.5: First treatment in case of illness across social group

Social group		First visit in case of illness						Total
		District hospital	CHC	PHC	Private hospital	Quack	Traditional healer	
General	Number	27	48	4	113	11	-	203
	Per cent	13.30	23.60	2.00	55.70	5.40	-	100.00
OBC	Number	25	88	11	150	63	5	342
	Per cent	7.30	25.70	3.20	43.90	18.40	1.50	100.00
SC	Number	2	40	7	35	23	2	109
	Per cent	1.80	36.70	6.40	32.10	21.10	1.80	100.00
ST	Number	1	13	1	5	5	1	26
	Per cent	3.80	50.00	3.80	19.20	19.20	3.80	100.00
Total	Number	55	189	23	303	102	8	680
	Per cent	8.10	27.80	3.40	44.60	15.00	1.20	100.00

Source: Field survey (Mau), 2015.

Though all the social groups showed a high dependency on private hospitals, the scheduled castes (SCs) and scheduled tribes (STs)—which possess a comparatively lower socio-economic status and are mainly engaged as agricultural labourers—registered a high preference for CHCs (Table 4.5). This clearly reveals that quacks and traditional healers are popular in the study area among the weaker sections of the society.

4.1.5 Family type

Family type also plays a significant role in determining the pattern of utilisation of various healthcare facilities. The result of the field investigation reveals that in joint families, expenditure is borne by the head of the households so there is less freedom for choices. A high proportion of respondents in both joint and nuclear families consulted private hospitals/doctors as the first place of treatment. There is a marked difference in visits to government-run health institutions, CHCs, PHCs and the district hospital (Table 4.6). Utilisation of services of PHCs and the district hospital is very low among nuclear families, while it increases in joint families. Nuclear families tend to visit CHCs more than PHCs and district hospitals. However, there exists a wide variation in utilisation of services of CHCs across the two types of family.

Table 4.6: First treatment in case of illness across family type

Family type		First visit in case of illness						Total
		District hospital	CHC	PHC	Private hospital	Quack	Traditional healer	
Nuclear	Number	12	135	3	187	61	8	406
	Per cent	3.00	33.30	0.70	46.10	15.00	2.00	100.00
Joint	Number	43	54	20	116	41	-	274
	Per cent	15.70	19.70	7.30	42.30	15.00	-	100.00
Total	Number	55	189	23	303	102	8	680
	Per cent	8.10	27.80	3.40	44.60	15.00	1.20	100.00

Source: Field survey (Mau), 2015.

The percentage of respondents in nuclear families visiting CHCs is much higher than that in joint families. Only 15 per cent of respondents belonging to joint and nuclear families visited quacks while a very low percentage of respondents (1.20 per cent) which are in nuclear families only visited traditional healers in case of illness.

4.1.6 House type

Types of houses and their conditions reflect economic conditions of households. Generally, poor and low-income people reside in hutments and kutcha houses, which are made of locally available mud and thatch. Pucca houses indicate a comparatively improved economic condition of households. Respondents residing in huts and kutcha houses are highly dependent on quacks in case of illness because of two prime reasons, viz., high rate of illiteracy and low/poor income. While more than 50 per cent of respondents residing in both pucca and kutcha-pucca houses visit private hospitals (Table 4.7), they are economically sound enough to utilise services and facilities of private hospitals. More than one-third of total respondents residing in kutcha-pucca houses visited CHCs in case of illness. Utilisation of services of CHCs increases from hut to kutcha-pucca houses, while utilisation of services of PHCs decreases as the economic condition of respondents improves because they can afford the cost of private hospitals/doctors. Visits to traditional healers in case of illness is limited to kutcha houses only.

Table 4.7: First treatment in case of illness across house type

House type		First visit in case of illness						Total
		District hospital	CHC	PHC	Private hospital	Quack	Tradition al healer	
Hut	Number	-	6	2	-	20	-	28
	Per cent	-	21.40	7.10		71.40	-	100.00
Kutcha	Number	3	26	11	-	64	8	112
	Per cent	2.70	23.20	9.80	-	57.10	7.10	100.00
Pucca	Number	41	43	-	107	18	-	209
	Per cent	19.60	20.60	-	51.20	8.60	-	100.00
Kutcha-pucca	Number	11	114	10	196	0	-	331
	Per cent	3.30	34.40	3.00	59.20	0.00	-	100.00
Total	Number	55	189	23	303	102	8	680
	Per cent	8.10	27.80	3.40	44.60	15.00	1.20	100.00

Source: Field survey (Mau), 2015.

4.1.7 Education

There is a strong association between educational attainment and utilisation of healthcare facilities. It is interesting to note that a large section of illiterate respondents (70 per cent) visit quacks. However, only about 24 per cent of respondents with schooling up to primary level and about 57.7 per cent with education up to middle level visit quacks. Younger respondents had fewer visits to quacks. With an increase in educational level, utilisation of services provided by the qualified practitioners in private hospitals increased rapidly while utilisation of services provided by quacks reduced sharply. However, the field survey does not establish a direct relationship between educational attainment and visits to CHCs/PHCs in case of illness.

Table 4.8: First treatment in case of illness across education groups

Education		First visit in case of illness						Total
		District hospital	CHC	PHC	Private hospital	Quack	Traditional healer	
Illiterate	Number	1	11	3	-	35	-	50
	Per cent	2.00	22.00	6.00	-	70.00	-	100.00
Primary	Number	-	7	4	-	6	8	25
	Per cent	-	28.00	16.00	-	24.00	32.00	100.00
Middle	Number	2	24	6	11	61	-	104
	Per cent	1.90	23.10	5.80	10.60	58.70	-	100.00
High School	Number	14	88	-	86	-	-	188
	Per cent	7.40	46.80	-	45.70	-	-	100.00
Intermediate	Number	11	36	10	114	-	-	171
	Per cent	6.40	21.10	5.80	66.70	-	-	100.00
Graduation and above	Number	27	23	-	92	-	-	142
	Per cent	19.00	16.20	-	64.80	-	-	100.00
Total	Number	55	189	23	303	102	8	680
	Per cent	8.10	27.80	3.40	44.60	15.00	1.20	100.00

Source: Field survey (Mau), 2015.

This indicates that educated as well uneducated respondents are not satisfied with government-run healthcare institutions in most of the cases. Utilisation of private hospitals is reported as high among respondents with

higher education (intermediate and above). Educated persons generally earn more and are more aware about the quality of healthcare facilities. About one-third of poorly educated respondents (primary level) sought the help of traditional healers during their illnesses.

4.1.8 Income

Income of the household to a large extent decides the utilisation of available healthcare facilities. It is clear from Table 4.9 that the percentage of respondents visiting private hospitals increases with the increase in income of households. The result indicates respondents whose monthly family incomes are less than Rs. 5,000 have the highest (36.50 per cent) dependency on CHCs while the highest proportion of respondents who visited private hospitals in case of illness was found in the income categories of above Rs. 5,000. Distribution of free medicines and low cost of medication—doctors' fees, diagnostic charges, etc.—at CHCs are the major factors for attracting low-income and poor people, while PHCs are ill-equipped and unmaintained where unavailability of doctors and paramedical staff are common features. Visits to CHCs/PHCs decrease with increase in income; hence, the result shows a negative relationship with the income. Dependency on quacks in case of illness is also found to be substantially high (28.70 per cent) in the low-income category (below Rs. 5,000) of the society.

Table 4.9: First treatment in case of illness across income groups

Level of income		First visit in case of illness						Total
		District hospital	CHC	PHC	Private hospital	Quack	Tradition al healer	
< 5,000	Number	4	130	23	89	102	8	356
	Per cent	1.10	36.50	6.50	25.00	28.70	2.20	100.00
5,000 10,000	Number	40	37	-	109	-	-	186
	Per cent	21.50	19.90	-	58.60	-	-	100.00
> 10,000	Number	11	22	-	105	-	-	138
	Per cent	8.00	15.90	-	76.10	-	-	100.00
Total	Number	55	189	23	303	102	8	680
	Per cent	8.10	27.80	3.40	44.60	15.00	1.20	100.00

Source: Field survey (Mau), 2015.

4.1.9 Occupation

The occupation of an individual reflects their economic status, which, in turn, influences the healthcare behaviour of the household. In general, the occupational structure of India's population reveals the relatively underdeveloped nature of the economy as most of the people are engaged in low-paid jobs. A similar situation exists in case of the study area also, where more than three-fourths of the working population is engaged in agriculture and its allied activities. This may be partly or primarily due to the slow pace of industrialisation and an unavailability of non-former employment in rural areas.

Table 4.10: First treatment in case of illness across occupation

Occupation		First visit in case of illness						Total
		District hospital	CHC	PHC	Private hospital	Quack	Traditional healer	
Farmers	Number	2	78	20	25	41	-	166
	Per cent	1.20	47.00	12.00	15.10	24.70	-	100.00
Industrial workers	Number	-	17	-	-	-	-	17
	Per cent	-	100.00	-	-	-	-	100.00
Services	Number	15	36	-	211	-	-	262
	Per cent	5.70	13.70	-	80.50	-	-	100.00
Other wage earners	Number	38	58	3	67	61	8	235
	Per cent	16.17	24.68	1.28	28.51	25.96	3.40	100.00
Total	Number	55	189	23	303	102	8	680
	Per cent	8.10	27.80	3.40	44.60	15.00	1.20	100.00

Source: Field survey (Mau), 2015.

Table 4.10 depicts that the respondents who are other wage earners (42.23 per cent) and industrial workers (100.0 per cent) have a complete dependency on government-run healthcare services which provide services at a subsidised rate/free and low cost of medication. This may be attributed to their low level of educational attainment and poverty coupled with poor awareness about the services available at healthcare institutions. It has also resulted in poor utilisation of CHCs/PHCs and the district hospital by them. Respondents engaged in services are more frequent visitors of private hospitals in case of illness.

4.1.10 Age group

The age of an individual affects their healthcare behaviour. Table 4.11 portrays the relationship between the ages of the respondents and utilisation of healthcare facilities by them. It is evinced that with an increase in age the percentage of respondents who sought help from quacks decreased. It may be that in advanced age one may have some specific disease which is not curable by the quacks. The percentage of respondents who visited private hospitals during illness increased up to the age group of 40–45 years; thereafter, it declined significantly. It is clear from Table 4.11 that up to the age group of 30–35, respondents' dependency on CHCs is significantly high and decreased with increase in age. The highest percentage of respondents who visited CHCs was found in the age group of 30–35 years. The percentage of respondents who visited PHCs is low, which also decreased as the age of respondents advanced.

Table 4.11: First treatment in case of illness across age groups

Age group		District hospital	CHC	PHC	Private hospital	Quack	Traditional healer	Total
< 30	Number	1	67	10	63	33	-	174
	Per cent	0.60	38.50	5.70	36.20	19.00	-	100.00
30 35	Number	1	90	8	52	36	8	195
	Per cent	0.50	46.20	4.10	26.70	18.50	4.10	100.00
35 40	Number	27	32	1	72	22	-	154
	Per cent	17.50	20.80	0.60	46.80	14.30	-	100.00
40 45	Number	12	-	4	91	11	-	118
	Per cent	10.20	-	3.40	77.10	9.30	-	100.00
> 45	Number	14	-	-	25	-	-	39
	Per cent	35.90	-	-	64.10	-	-	100.00
Total	Number	55	189	23	303	102	8	680
	Per cent	8.10	27.80	3.40	44.60	15.00	1.20	100.00

Source: Field survey (Mau), 2015.

Table 4.12: Significance level in utilisation of healthcare facilities according to selected socio-economic and demographic characteristics of Mau district (2015)

Variables		Exp(B)	95.0% C. I. for EXP(B)	
			Lower	Upper
Religion	Muslim			
	Hindu	2.159**	1.219	3.826
Caste	SC&ST			
	OBC	0.716	0.43	1.194
	UC	0.662	0.368	1.191
Age	Less than 30			
	30 35	0.699	0.42	1.163
	35 40	0.752	0.427	1.325
	40 45	0.079	0.033	0.192
	More than 45	0.239	0.095	0.598
Education	Illiterate			
	Up to high school	2.944**	1.234	7.024
	Above high school	3.814**	1.271	6.444
Income (Rs.)	Less than 5,000			
	5,000 10,000	2.639**	0.788	3.41
	More than 10,000	5.686**	2.116	15.282
Occupation	Other wage earners			
	Farmers	1.727	0.937	3.183
	Services	0.233	0.14	0.39
Family type	Nuclear			
	Joint	0.741	0.425	1.293
Constant		0.319		

Note: **$p < 0.05$.

Comment: Education, income and religion of respondents are the important predictors of utilisation of healthcare facilities.

4.1.11 Utilisation of healthcare facilities

Multiple logistic analysis has been done in order to find associations between factors like religion, caste, education, income, occupation and family type with first treatment in case of illness (public and private healthcare institution). Table 4.12 presents the result of logistic regression assessing the association between utilisation of healthcare facilities and the explanatory variables. For the analysis, a 95 per cent confidence level is taken and the result is presented in the table. The result shows that

respondents' education and income are highly significant and are associated with utilisation of healthcare facilities. Contrary to this, the result shows that caste, occupation and family type group are not significantly associated with utilisation of healthcare facilities. Respondents who belong to the Hindu community were more likely up to utilisation of healthcare institutions than respondents who belong to the Muslim community. Multiple logistic analysis revealed that families with poor economic status (below Rs. 5,000 per month family income) are less likely to opt for utilisation of healthcare facilities as compared to families with better economic conditions (Rs. 5,000–10,000 and above Rs. 10,000 per month income). Because of this, the odd ratios for the latter are 2.6 and 5.6 times higher, respectively. Similarly, education has a strong association in utilisation of healthcare facilities. For instance, odd ratios for respondents educated up to high school and above high school are 2.9 and 3.8 times more, respectively, than those of uneducated respondents. This proves the hypothesis of the study that utilisation of healthcare facilities is directly proportional to the status of education and economic condition of an individual.

4.2 Change in healthcare facility during treatment

A change in healthcare facility by respondents during illness indicates the efficiency of healthcare delivery services and facilities at various health institutions and their acceptability by the users. Quality of healthcare services and facilities rendered by health institutions largely depend on the proficiency, attitude and behaviour of the medical and paramedical staff, and availability and functioning of health apparatus. Therefore, an analysis of change of healthcare facility by users during their illness across socio-economic and demographic categories becomes essential to analyse the efficiency of available health facilities in the district of Mau. The socio-economic and demographic variables discussed in this section include religion, social groups (caste), family structure, monthly income of households, age, education and occupation of the respondents.

4.2.1 Place of residence

The study reveals that respondents in rural areas have changed healthcare facilities from private to government institutions (40.80 per cent) during illness, in contrast to urban areas, where 46.70 per cent of respondents changed healthcare facility from government to private institutions. This indicates that in rural areas private health institutions are not very efficient in dealing with critical health problems because they are ill-equipped and

lack trained paramedical and specialist doctors due to limited investment of finance. It could also be, in private, that respondents 'capability to pay decreases with longer duration of treatment

Table 4.13: Change in healthcare facility during treatment across place of residence

Place of residence		Govt. to private	Private to govt.	Multiple changes	No facility change	Total
Rural	Number	145	253	85	137	620
	Per cent	23.40	40.80	13.70	22.10	100.00
Urban	Number	28	14	-	18	60
	Per cent	46.70	23.30	-	30.00	100.00
Total	Number	173	267	85	155	680
	Per cent	25.40	39.30	12.50	22.80	100.00

Source: Field survey (Mau), 2015.

In urban areas, respondents changed health facility from government to private health institutions primarily because of careless behaviour and unfriendly attitude of paramedical staff and doctors towards the patients, and lack of cleanliness. Further, the high financial requirement in private hospitals in urban areas and availability of specialist doctors therein creates a difference between the private health institutions of the rural areas and the town. A small percentage of rural respondents (13.70 per cent) who initially changed from government to private health institutions during illness later on returned to government health institutions either due to high cost of treatment or lack of health machinery necessary for curing critical health cases. A very low percentage of respondents in both urban and rural areas reported that they did not change healthcare facility during treatment.

4.2.2 Religion

The percentage of the Hindu respondents who changed healthcare facilities from government to private institutions (27.40 per cent) during illness exceeded than that of the Muslim respondents (15.30 per cent). This is true also in change of healthcare facility from private to government, but there the difference between the Hindu and Muslim respondents decreases. The percentage of Muslim respondents who changed from government to private and then private to government is higher (19.80 per cent) than that of the Hindu respondents.

Table 4.14: Change in healthcare facility during treatment across religion

Religion		Govt. to private	Private to govt.	Multiple changes	No facility change	Total
Hindu	Number	156	229	63	121	569
	Per cent	27.40	40.20	11.10	21.30	100.00
Muslim	Number	17	38	22	34	111
	Per cent	15.30	34.20	19.80	30.60	100.00
Total	Number	173	267	85	155	680
	Per cent	25.40	39.30	12.50	22.80	100.00

Source: Field survey (Mau), 2015.

4.2.3 Social group

The result of the summary suggests that a large proportion of the general population changed healthcare facility from government to private health institutions compared to others. The percentage of OBC respondents (41.80 per cent) who changed healthcare facility from private to government health institutions is found to be the highest (Table 4.15).

Table 4.15: Change in healthcare facility during treatment across social groups

Social group		Govt. to private	Private to govt.	Multiple changes	No facility change	Total
General	Number	56	79	32	36	203
	Per cent	27.60	38.90	15.80	17.70	100.00
OBC	Number	81	143	37	81	342
	Per cent	23.70	41.80	10.80	23.70	100.00
SC	Number	25	38	15	31	109
	Per cent	22.90	34.90	13.80	28.40	100.00
ST	Number	11	7	1	7	26
	Per cent	42.30	26.90	3.80	26.90	100.00
Total	Number	173	267	85	155	680
	Per cent	25.40	39.30	12.50	22.80	100.00

Source: Field survey (Mau), 2015.

4.2.4 Family type

Table 4.16 reveals that a large percentage of respondents belonging to joint families changed healthcare facility from government to private compared to the members of nuclear families. However, a large percentage of respondents belonging to nuclear families (45.80 per cent) changed healthcare facility from private to government. Similarly, the percentage of respondents belonging to nuclear families is also higher (17.20 per cent) than that of joint families in terms of respondents who changed healthcare facility from government to private and private to government during illness. Those living in joint families showed less mobility compared to the nuclear family members.

Table 4.16: Change in healthcare facility during treatment across family type

Family Type		Govt. to private	Private to govt.	Multiple changes	No facility change	Total
Nuclear	Number	66	186	70	84	406
	Per cent	16.30	45.80	17.20	20.70	100.00
Joint	Number	107	81	15	71	274
	Per cent	39.10	29.60	5.50	25.90	100.00
Total	Number	173	267	85	155	680
	Per cent	25.40	39.30	12.50	22.80	100.00

Source: Field survey (Mau), 2015.

4.2.5 Education

Change of healthcare facility during illness is closely linked with education of people, especially of patients' family members. Illiterate respondents and those with low education (up to middle/high school) didn't change healthcare facility during treatment because they were not very aware about other available healthcare services. Most of them used government healthcare institutions (Table 4.17). About one-fourth of the total respondents with education above middle class and graduation changed healthcare facility from government to private health institutions. About 44 per cent of respondents who have education above high school changed healthcare facility from private to government during illness.

Table 4.17: Change in healthcare facility during treatment across level of education

Level of Education		Govt. to private	Private to govt.	Multiple changes	No facility change	Total
Illiterate	Number	3	23	-	24	50
	Per cent	6.00	46.00	-	48.00	100.00
Primary	Number	-	6	-	19	25
	Per cent	-	24.00	-	76.00	100.00
Middle	Number	26	17	15	46	104
	Per cent	25.00	16.30	14.40	44.20	100.00
High School	Number	52	82	-	54	188
	Per cent	27.70	43.60	-	28.70	100.00
Intermediate	Number	56	76	39	0	171
	Per cent	32.70	44.40	22.80	0.00	100.00
Graduation and above	Number	36	63	31	12	142
	Per cent	25.40	44.40	21.80	8.50	100.00
Total	Number	173	267	85	155	680
	Per cent	25.40	39.30	12.50	22.80	100.00

Source: Field survey (Mau), 2015.

Likewise, the percentage of respondents with education above intermediate who changed healthcare facility from government to private and then back to government health institutions exceeds that of the percentage of respondents with education below intermediate.

4.2.6 Income

Income is one of the most important factors in determining the pattern of shift of healthcare facility during treatment. But in the Mau district, Table 4.18 shows no direct relationship between income and change of healthcare facility during the treatment process. The percentage of respondents in all income groups who changed healthcare facility from private to government health institutions is high in the study area. The treatment duration is long and the total medication fee is also high in such health institutions; it is for this reason that a significant proportion of respondents (31.90 per cent) with incomes over Rs. 10,000 who first changed healthcare facility from government to private sector in search of

better treatment and facility returned to government hospitals. Respondents within come sunder Rs. 10,000 changed healthcare facility less often than the respondents of higher incomes (more than Rs. 10,000).

Table 4.18: Change in healthcare facility during treatment across income groups

Income (Rs.)		Govt. to private	Private to govt.	Multiple changes	No facility change	Total
<5,000	Number	91	147	24	94	356
	Per cent	25.60	41.30	6.70	26.40	100.00
5,000 10,000	Number	63	57	17	49	186
	Per cent	33.90	30.60	9.10	26.30	100.00
> 10,000	Number	19	63	44	12	138
	Per cent	13.80	45.70	31.90	8.70	100.00
Total	Number	173	267	85	155	680
	Per cent	25.40	39.30	12.50	22.80	100.00

Source: Field survey (Mau), 2015.

4.2.7 Occupation

Table 4.19 evinces that more than 60per cent of farmers changed healthcare facility from government to private health institutions. Respondents engaged as industrial workers and in services and other occupations had more frequently changed their healthcare facility from private to government health institutions.

About one-fourth of total respondents engaged in service activities reported multiple changes in utilisation of healthcare facilities from government to private and then back to government hospitals (Table 4.19). Respondents engaged as other wage earners (40.43 per cent) had not changed healthcare facility during treatment.

Table 4.19: Change in healthcare facility during treatment across occupation

Occu-pation		Govt. to private	Private to govt.	Multiple changes	No facility change	Total
Farmers	Number	104	25	15	22	166
	Per cent	62.70	15.10	9.00	13.30	100.00
Industrial workers	Number	-	17	-	-	17
	Per cent	-	100.00	-	-	100.00
Services	Number	22	132	70	38	262
	Per cent	8.40	50.40	26.70	14.50	100.00
Other wage earners	Number	47	93	-	95	235
	Per cent	20.00	39.57	-	40.43	100.00
Total	Number	173	267	85	155	680
	Per cent	25.40	39.30	12.50	22.80	100.00

Source: Field survey (Mau), 2015.

4.2.8 Age

A perusal of Table 4.20 shows that about one-third of the total respondents below age 40 had changed healthcare facility from government to private health institutions.

Respondents above 45 years (100.00 per cent) and in the age groups 30–35 (45.10 per cent) and 35–40 (38.30 per cent) registered significant changes of healthcare facility from private to government health institutions. About one-fourth of the total respondents below 30 years of age showed changes in utilisation of healthcare facility from government to private and then back to government hospitals (Table 4.20). Respondents between 40 and 45 years of age (60.20 per cent) had not changed healthcare facility during illness.

Table 4.20: Change in healthcare facility during treatment across age groups

Age group		Govt. to private	Private to govt.	Multiple changes	No facility change	Total
<30	Number	56	45	41	32	174
	Per cent	32.20	25.90	23.60	18.40	100.00
30 35	Number	56	88	22	29	195
	Per cent	28.70	45.10	11.30	14.90	100.00
35 40	Number	50	59	22	23	154
	Per cent	32.50	38.30	14.30	14.90	100.00
40 45	Number	11	36	0	71	118
	Per cent	9.30	30.50	0.00	60.20	100.00
>45	Number	-	39	-	0	39
	Per cent	-	100.00	-	0.00	100.00
Total	Number	173	267	85	155	680
	Per cent	25.40	39.30	12.50	22.80	100.00

Source: Field survey (Mau), 2015.

4.3 Place of childbirth

One of the important thrusts of healthcare is to encourage delivery of proper hygienic conditions under the supervision of trained health professionals. The provision of delivery care in the public health institutions is one of the components of the RCH programme. Table 4.21 provides the number of births by place of delivery. Only 17.3 per cent of the births took place in government-operated health institutions and 18.70 per cent of deliveries took place in private health institutions. More than half of births (63.90 per cent) occurred at home, where about 50.40 per cent of births were assisted by a trained birth attendant (nurse). The remaining births were assisted by village *dai*, relatives and other persons. In this section, an attempt has been made to probe the causal relationship between religion, caste, family structure, income, residence, education, house type and occupation of respondent, and place of birth of last child. According to NFHS-3 (2005–06), in total 20.6 per cent of deliveries were made at health institutions in Uttar Pradesh, while 15.8 per cent of rural

deliveries were made at health institutions and 39.5 per cent of urban deliveries were made at health institutions.

4.3.1 Place of residence

Table 4.21: Place of childbirth across residences

Place of Residence		CHC	PHC	Private hospital	At home by trained birth attendant	At home by female neighbour	Total
Rural	Number	40	64	115	311	90	620
	Per cent	6.50	10.30	18.50	50.20	14.50	100.00
Urban	Number	14	-	12	32	2	60
	Per cent	23.30	-	20.00	53.30	3.30	100.00
Total	Number	54	64	127	343	92	680
	Per cent	7.90	9.40	18.70	50.40	13.50	100.00

Source: Field survey (Mau), 2015.

Institutional delivery in the study areas is very low. Despite the government's several efforts, more than half of the childbirths took place in the home. Table 4.21 reveals that only 16.8 per cent of deliveries in rural areas and 23.3 per cent in urban areas, respectively, took place in public health institutions, i.e., CHCs and PHCs. Similarly, 18.50 and 20.00 per cent of deliveries in rural and urban areas, respectively, took place in private hospitals. A sizeable proportion of deliveries were administered by untrained personnel.

4.3.2 Religion

A comparatively a large proportion of Hindus' institutional deliveries were reported. About 19 per cent of Hindus reported that they used public/government healthcare institutions as opposed to 9 per cent of Muslims. In use of private institutions, Muslims are slightly better, with 20.70 per cent as opposed to 18.30 per cent of Hindus.

Table 4.22: Place of childbirth across religions

Religion		CHC	PHC	Private hospital	At home by trained birth attendant	At home by female neighbour	Total
Hindu	Number	48	60	104	295	62	569
	Per cent	8.40	10.50	18.30	51.80	10.90	100.00
Muslim	Number	6	4	23	48	30	111
	Per cent	5.40	3.60	20.70	43.20	27.00	100.00
Total	Number	54	64	127	343	92	680
	Per cent	7.90	9.40	18.70	50.40	13.50	100.00

Source: Field survey (Mau), 2015.

4.3.3 Social group

Table 4.23: Place of childbirth across social groups

Social group		CHC	PHC	Private hospital	At home by trained birth attendant	At home by female neighbour	Total
General	Number	28	10	70	87	8	203
	Per cent	13.80	4.90	34.50	42.90	3.90	100.00
OBC	Number	19	43	48	183	49	342
	Per cent	5.60	12.60	14.00	53.50	14.30	100.00
SC	Number	7	11	9	63	19	109
	Per cent	6.40	10.10	8.30	57.80	17.40	100.00
ST	Number	-	-	-	10	16	26
	Per cent	-	-	-	38.50	61.50	100.00
Total	Number	54	64	127	343	92	680
	Per cent	7.90	9.40	18.70	50.40	13.50	100.00

Source: Field survey (Mau), 2015.

Table 4.23 provides social-group-wise percentages of institutional and home deliveries. A higher percentage of institutional deliveries at government hospitals has been registered by respondents belonging to the

general (18.70 per cent) and OBCs (17.20 per cent) groups. The percentage of institutional deliveries at government hospitals by respondents belonging to scheduled castes (16.5 per cent) is slightly lower than those in the general caste and OBCs. The lowest percentage of deliveries at private hospitals was found among SCs. It is primarily associated with affordability to bear the cost of healthcare services at private hospitals. Though a good proportion of scheduled caste and OBC mothers delivered in health institutions, 17.40 per cent of deliveries for SCs and 14.30 per cent of deliveries for OBCs are still being assisted by untrained personnel at home. High percentages of deliveries among families in the general caste take place in private hospitals. Respondents belonging to OBCs reported a comparatively lower proportion of institutional deliveries.

4.3.4 Family type

Joint and nuclear families showed marked differences in patterns of childbirth. In nuclear families, the share of institutional deliveries was found to be high, while in joint families this ratio was found to be low across caste/economic basis (Table 4.24). In nuclear families, 17.7 per cent of deliveries took place in government hospitals, while the share of deliveries performed in private hospitals is slightly higher—i.e., 26.40 per cent. The number of deliveries at home by trained personnel was low in nuclear families (39.40 per cent) compared to joint families (66.80 per cent). It is surprising to note the highest proportion of births occurring at home by untrained personnel is in nuclear families. Poor nuclear families belonging to agricultural and industrial workers were found to be depending upon untrained attendants.

Table 4.24: Place of childbirth across family types

Family Type		CHC	PHC	Private hospital	At home by trained birth attendant	At home by female neighbour	Total
Nuclear	Number	37	35	107	160	67	406
	Per cent	9.10	8.60	26.40	39.40	16.50	100.00
Joint	Number	17	29	20	183	25	274
	Per cent	6.20	10.60	7.30	66.80	9.10	100.00
Total	Number	54	64	127	343	92	680
	Per cent	7.90	9.40	18.70	50.40	13.50	100.00

Source: Field survey (Mau), 2015.

4.3.5 Education

Among so many socio-economic factors contributing to the positive relationship with place of delivery, a respondent's education is quite important. It significantly enhances the ability of mothers to ensure healthcare services during pregnancy and a desired place of childbirth (delivery). Table 4.25 provides respondents' education-related proportion of births by place of delivery.

Large numbers of women with education up to high school are still not utilising healthcare facilities available at government and private hospitals due to their low educational attainment. A total of 90.00 per cent of illiterate women and 68.00 per cent of women with education up to primary level deliver babies at home with the help of untrained personnel. Meanwhile, significant numbers of women who have education up to middle (50.00 per cent), high school (92.00 per cent) and intermediate (65.50 per cent) levels delivered at home with the assistance of trained birth attendants. The proportion of deliveries at home decreases with the mother's education while the proportion of deliveries in government and private hospitals increases with the mother's education and with the household wealth.

Table 4.25: Place of childbirth across levels of education

Education		CHC	PHC	Private hospital	At home by trained birth attendant	At home by female neighbour	Total
Illiterate	Number	-	5	-	-	45	50
	Per cent	-	10.00	-	-	90.00	100.00
Primary	Number	-	2	-	6	17	25
	Per cent	-	8.00	-	24.00	68.00	100.00
Middle	Number	-	28	-	52	24	104
	Per cent	-	26.90	-	50.00	23.10	100.00
High School	Number	6	-	5	173	4	188
	Per cent	3.20	-	2.70	92.00	2.10	100.00
Intermed-iate	Number	9	18	30	112	2	171
	Per cent	5.30	10.50	17.50	65.50	1.20	100.00
Graduation and above	Number	39	11	92	-	-	142
	Per cent	27.50	7.70	64.80	-	-	100.00
Total	Number	54	64	127	343	92	680
	Per cent	7.90	9.40	18.70	50.40	13.50	100.00

Source: Field survey (Mau), 2015.

4.3.6 Income

Economic status of households (household income) to a great extent determines the place of delivery. Table 4.26 clearly shows that as the income of a household increases the proportion of births occurring in institutions, particularly in CHCs and private hospitals, increases. However, the proportion of births occurring in PHCs decreases with an increase in household income, because of limited availability of health facilities at PHCs. Further, Table 4.26 reveals that women of poor households largely delivered children at home as they could not afford the cost of delivery and other expenses at private hospitals. About one-fourth of women in households with the lowest incomes (below Rs. 5,000) reported home deliveries administered by untrained personnel. The percentage of total deliveries attended by trained staff at home also increases with an increase in the household's income. On the other side, not a single woman belonging to the high-income group (more than Rs. 10,000) delivered at home; so, by implication, it can be argued that if comfortable institutional delivery is to be ensured we need to improve the economic condition of families. It is found that household income has a positive correlation with institutional deliveries and deliveries performed by trained personnel.

Table 4.26: Place of childbirth across income groups

Income groups		CHC	PHC	Private hospital	At home by trained birth attendant	At home by female neighbour	Total
<5,000	Number	15	35	5	209	92	356
	Per cent	4.20	9.80	1.40	58.70	25.80	100.00
5,000 10,000	Number	17	18	17	134	-	186
	Per cent	9.10	9.70	9.10	72.00	-	100.00
> 10,000	Number	22	11	105	-	-	138
	Per cent	15.90	8.00	76.10	-	-	100.00
Total	Number	54	64	127	343	92	680
	Per cent	7.90	9.40	18.70	50.40	13.50	100.00

Source: Field survey (Mau), 2015.

Table 4.27: Level of significance of institutional delivery according to selected socio-economic and demographic characteristics (2015)

Variables		Exp(B)	95.0% C. I. for EXP(B)	
			Lower	Upper
Religion	Muslim			
	Hindu	0.668	0.353	1.265
Caste	SC&ST			
	OBC	1.23	0.661	2.289
	UC	1.392	0.703	2.758
Education	Illiterate			
	Up to high school	2.372**	0.068	3.024
	Above high school	3.149**	0.365	12.653
Income	Less than 5,000			
	5,000 10,000	4.982**	2.208	45.13
	More than 10,000	6.923**	4.151	25.612
Occupation	Other wage earners			
	Farmers	0.25	0.128	0.487
	Services	0.667	0.408	1.092
Family type	Nuclear			
	Joint	0.382	0.234	0.623
Constant		0.122		

Note: **p<0.05.

Comment: Education and income of respondents are the important predictors of institutional delivery.

4.3.7 Institutional delivery across socio-economic categories

Multiple logistic analysis has been used in order to find out the association between factors like religion, caste, family type, education, family income, occupation and age, and safe institutional deliveries (institutional and at home by trained personnel). Table 4.27 presents the results of logistic regression assessing the association between safe delivery and the explanatory variables. The analysis has been done at 95 per cent confidence level and the results are presented in the table. The results show that respondents' education and per-month family income are significantly associated with safe delivery. Contrary to this, family type, religious community, caste group and family type are not significantly

associated with safe delivery. Multiple logistic analysis revealed that respondents with poor economic status (below Rs. 5,000 per-month family income) were less likely to opt for safe delivery as compared to respondents with better economic conditions (Rs. 5,000–10,000 and above Rs. 10,000 per-month income). Because of this, the odd ratios for the latter are 4.9 and 6.9 times higher, respectively. Similarly, education has a strong association in utilisation of safe delivery. Table 4.27 reveals that the odd ratios for respondents educated up to high school and above high school are 2.3 and 3.1 times higher, respectively, than those of uneducated or less-educated respondents.

4.4 Institutional distribution of free medicine

Access to essential medicines is a human right. People's unhindered access to essential medicines is an important part of their multifaceted activities for the health protection and promotion of marginalised communities. Provision of free medicines to all patients seeking care in government hospitals has improved access to healthcare many fold. It has reduced the burden of catastrophic diseases because patients have begun to seek treatment at the beginning of a problem itself. But in study area, only one-fourth of respondents reported obtaining free medicine during treatment at public health services.

4.4.1 Residence

There has been a rural-urban difference in obtaining free medicines at healthcare facilities in the study area. The percentage of respondents who obtained free medicine from the CHS/SHS (Central Health Scheme/State Health Scheme) in urban areas (36.70 per cent) is higher in comparison to that in rural areas (27.30 per cent). In rural areas, 24.00 per cent of respondents didn't obtain free medicine, while the corresponding figure for urban areas is only 10.00 per cent.

About half of the respondents didn't answer the question regarding obtaining free medicine. This shows that they were unaware of provision of free medicine at health institutions.

Table 4.28: Utilisation of free medicine across places of residence

Place of Residence		Yes	No	Can't say	Total
Rural	Number	169	149	302	620
	Per cent	27.30	24.00	48.70	100.00
Urban	Number	22	6	32	60
	Per cent	36.70	10.00	53.30	100.00
Total	Number	191	155	334	680
	Per cent	28.10	22.80	49.10	100.00

Source: Field survey (Mau), 2015.

4.4.2 Religion

Table 4.29 depicts the religion-wise proportion of respondents who obtained free medicines at healthcare institutions. The percentage of the Hindu respondents who obtained free medicine (29.00 per cent) is high in comparison to the respondents of the Muslim religion (27.30 per cent). About 60 percent of Muslim respondents didn't answer the question regarding obtaining free medicine in comparison to the number of Hindu respondents (47.10 per cent). This shows a more serious unawareness among Muslims about the facility of free medicine distribution at health institutions.

Table 4.29: Utilisation of free medicine across religions

Religion		Yes	No	Do not know	Total
Hindu	Number	165	136	268	569
	Per cent	29.00	23.90	47.10	100.00
Muslim	Number	26	19	66	111
	Per cent	23.40	17.10	59.50	100.00
Total	Number	191	155	334	680
	Per cent	28.10	22.80	49.10	100.00

Source: Field survey (Mau), 2015.

4.4.3 Social group

A perusal of Table 4.30 reveals the healing fact that poorer segments of society have availed themselves of the facility of free medicines more than other sections of society.

Table 4.30: Utilisation of free medicine across social groups

Social group		Yes	No	Do not know	Total
General	Number	36	61	106	203
	Per cent	17.70	30.00	52.20	100.00
OBC	Number	104	64	174	342
	Per cent	30.40	18.70	50.90	100.00
SC	Number	39	24	46	109
	Per cent	35.80	22.00	42.20	100.00
ST	Number	12	6	8	26
	Per cent	46.20	23.10	30.80	100.00
Total	Number	191	155	334	680
	Per cent	28.10	22.80	49.10	100.00

Source: Field survey (Mau), 2015.

4.4.4 Family type

The percentage of the respondents from the joint family type who obtained free medicine (32.50 per cent) is slightly high in comparison to the respondents from the nuclear family type (25.10 per cent).

Table 4.31: Utilisation of free medicine across family types

Family type		Yes	No	Do not know	Total
Nuclear	Number	102	98	206	406
	Per cent	25.10	24.10	50.70	100.00
Joint	Number	89	57	128	274
	Per cent	32.50	20.80	46.70	100.00
Total	Number	191	155	334	680
	Per cent	28.10	22.80	49.10	100.00

Source: Field survey (Mau), 2015.

About 50 percent of respondents from the nuclear family type didn't answer the question about obtaining free medicine, whereas about 46 per cent of nuclear-family respondents reported being unaware of distribution of free medicine.

4.4.5 Level of education

Level of education is also one of the important factors affecting utilisation of healthcare facilities. The majority of illiterate respondents as well as respondents with primary education were unaware of the free-medicine facility available at healthcare institutions. Ironically, more than two-thirds of the total respondents who had attained graduation and above are also unaware of the free-medicine facility. These people had not used government healthcare facilities. However, about one-fifth of the total respondents who had attained graduation and used government health institutions obtained free medicine. The percentages of respondents who have education up to high school and intermediate levels are low in comparison to respondents with education up to primary and middle levels with regard to getting free medicine from the health institutions (Table 4.32).

Table 4.32: Utilisation of free medicine across education groups

Level of education		Yes	No	Do not know	Total
Illiterate	Number	12	-	38	50
	Per cent	24.00	-	76.00	100.00
Primary	Number	11	-	14	25
	Per cent	44.00	-	56.00	100.00
Middle	Number	56	16	32	104
	Per cent	53.80	15.40	30.80	100.00
High School	Number	46	63	79	188
	Per cent	24.50	33.50	42.00	100.00
Intermediate	Number	36	56	79	171
	Per cent	21.10	32.70	46.20	100.00
Graduation and above	Number	30	20	92	142
	Per cent	21.10	14.10	64.80	100.00
Total	Number	191	155	334	680
	Per cent	28.10	22.80	49.10	100.00

Source: Field survey (Mau), 2015.

4.4.6 Level of income

Level of income affects utilisation of healthcare facilities largely. This is true in the case of the study area, where increase in level of income and obtaining free medicine show an inverse relationship. About 35 per cent of respondents with low incomes (less than Rs. 5,000) had obtained free medicine, which is quite high compared to the percentage of middle-income (Rs. 5,000–10,000) and high-income (more than Rs. 10,000) respondents (Table 4.33). However, about one-fourth of respondents from low- and middle-income groups did not obtain free medicines from health institutions and argued about poor quality of free medicine. Further, more than 40 per cent of the respondents belonging to low- and middle-income groups were also found to be unaware of the facility of free medicine at the government health institutions. Unawareness of free medicine was found highest among respondents of the high-income group.

Table 4.33: Utilisation of free medicine across income groups

Monthly Income (Rs.)		Yes	No	Don't know	Total
< 5,000	Number	125	86	145	356
	Per cent	35.10	24.20	40.70	100.00
5,000 10,000	Number	53	49	84	186
	Per cent	28.50	26.30	45.20	100.00
> 10,000	Number	13	20	105	138
	Per cent	9.40	14.50	76.10	100.00
Total	Number	191	155	334	680
	Per cent	28.10	22.80	49.10	100.00

Source: Field survey (Mau), 2015.

4.4.7 Occupation

Table 4.34 reveals that the people engaged as labourers in agriculture and industries had always gotten free medicine whenever they visited healthcare institutions in case of illness. Other wage earners and industrials workers, due to their occupations—which fetch lower incomes—are poor and marginalised. Farmers, whose incomes are better than the labourers but of a fragile nature, are also aware of the availability of free medicine at the healthcare institutions. However, they obtained free medicines only during their periods of low/poor income. Consequently, the percentage of farmers who obtained free medicine is much lower than

that of labourers. A total of 41 percent of farmers did not take free medicines; this percentage is the highest among all the occupations. About two-thirds of the total respondents engaged in the service sector and other occupations were found to be unaware of the facility of free medicine available at healthcare institutions. This group reported poor quality of medicine. Only about 10 per cent of respondents engaged in services obtained free medicine, while about 30 per cent of those respondents did not obtain free medicine. But the scenario is reversed in cases of respondents engaged in other occupations. Here, the majority of the respondents who are aware of the facility of free medicine have taken full advantage of the facility. More than one-third of the total respondents engaged in other occupations obtained free medicine in contrast with just 4.26 per cent respondents of other wage earner who did not get free medicine at government healthcare institutions.

Table 4.34: Utilisation of free medicine across occupations

Occupation		Yes	No	Don't know	Total
Farmer	Number	61	68	37	166
	Per cent	36.70	41.00	22.30	100.00
Industrial workers	Number	17	-	-	17
	Per cent	100.00	-	-	100.00
service	Number	27	77	158	262
	Per cent	10.30	29.40	60.30	100.00
Other wage earner	Number	86	10	139	228
	Per cent	36.60	4.26	59.15	100.00
Total	Number	191	155	334	680
	Per cent	28.10	22.80	49.10	100.00

Source: Field survey (Mau), 2015.

4.4.8 Age group

There are differences in obtaining free medicine across different age groups. Generally, the percentage of respondents getting free medicine increases initially with increase in age, then it decreases gradually with the increase in age, especially after they reach 35 years of age. However, respondents above 45 years old did not obtain free medicine. This can be attributed to two main reasons. First, more than two-thirds of the population above 40 years old is unaware of the facility of free medicine; as such, they prefer to attend private hospitals over government-run

hospitals. Additionally, elderly people are most affected by lifestyle-born chronic diseases, medicines for which are generally not available at the counter of free medicine. Even if these medicines are available, they are not satisfied with the quality of medicines. It is the respondents of lower age groups, particularly below age 35, who were found to be most aware of the availability of free medicines. In these age groups, about one-third of respondents obtained free medicines while about one-fourth of respondents did not obtain free medicines. Only about 40 per cent of respondents were found to be unaware of the facility of free medicine. Most of these respondents did not generally visit government healthcare institutions.

In conclusion, it may be stated that a majority of the people are still not aware of the facility of free medicine. Only those respondents who visit government healthcare institutions during illness were found to be aware. Further, about 50 per cent are not satisfied with the quality of free medicines available at government healthcare institutions. However, it is the poor, downtrodden sections of society, whose incomes and education levels are low, who have benefitted most.

Table 4.35: Utilisation of free medicine across age groups

Age group		Yes	No	Do not know	Total
<30	Number	57	46	71	174
	Per cent	32.80	26.40	40.80	100.00
30 35	Number	65	47	83	195
	Per cent	33.30	24.10	42.60	100.00
35 40	Number	43	23	88	154
	Per cent	27.90	14.90	57.10	100.00
40 45	Number	26	25	67	118
	Per cent	22.00	21.20	56.80	100.00
>45	Number	-	14	25	39
	Per cent	-	35.90	64.10	100.00
Total	Number	191	155	334	680
	Per cent	28.10	22.80	49.10	100.00

Source: Field survey (Mau), 2015.

4.5 Health workers visited by villages/households

Visits to villages/households by health workers are not only helpful in dissemination of health knowledge and awareness among society but are also essential for providing door-to-door curative and preventive care, especially for less mobile and vulnerable sections of the population, including women, pregnant women, children and elderly people.

Table 4.36: Health worker visits to houses of respondents during the last six months

Health worker	Number	Per cent
Govt. doctor	19	2.8
ANM	227	33.4
ASHA	258	37.9
Anganwadi worker	131	19.3
Health worker/volunteer	42	6.2
None of these	3	0.4
Total	680	100

Source: Field survey (Mau), 2015.

A very low per cent of villages/households reported that any government doctors visited their household/village during the last six months. Certain households reported a complete absence of visits by any health workers. It is the ANMs and ASHAs who visited more than 70 per cent of households in the study area (Table 4.36). Visits by *Anganwadi* workers covered only about one-fifth of the total households. Volunteer health workers also visited a very low per cent of households during the last six months.

4.6 Facilities provided through health workers

The government has made provisions for numerous health facilities like immunisation of children and pregnant women, distribution of contraceptives and Iron and Folic Acid tablets, and family planning information at the respective health centres, which is provided and made accessible through the health workers including ANMs, ASHAs and *Anganwadi* workers. The following discussion is devoted to analysing the nature of health facilities provided by the health workers and how the same is received by the people. The responses of people are tabulated across socio-cultural categories to analyse the pattern of utilisation.

4.6.1 Residence

The data given in Table 4.37 exhibit the facilities provided by health workers by place of residence. In urban areas, the pulse polio vaccine had been provided to all households, while in rural areas about 1per cent of households reported that they did not get the pulse polio vaccine from the health workers. Provision of the measles vaccine by the health workers was low (62.80 per cent) in urban areas compared to the rural areas, where about 80per cent of households had been covered by the measles vaccine. But provision of the DPT vaccine to households was greater in urban areas in comparison to rural areas (Table 4.37). Overall, only about 75 per cent of the households in the study area had been provided the DPT vaccine by the health workers. Likewise, the BCG vaccine (Bacillus Calmette - Guérin) and TT (Tetanus Toxoid) injection had been provided to 78.40 per cent and 83.40 per cent of households, respectively, in rural areas. In urban areas, 76.70 per cent and 83.30 per cent of households had been covered under the BCG vaccine and TT injection, respectively.

A smaller number of respondents reported having received contraceptive pills/condoms from the visiting health worker compared to the percentage covered by immunisation and vaccination in the study area. Only about 54 per cent of households in the study area had been provided with contraceptive pills and condoms. In rural areas, 54.70 per cent and 56.80 per cent of households had been provided with contraceptive pills and condoms, respectively, while in urban areas the corresponding figures stand at 55.00 per cent and 40.70 per cent, respectively. Health workers provided condoms to more households in rural areas than the urban areas. However, they provided IFA tablets to about 77 per cent of households in urban areas and to just 68.70 per cent of households in rural areas.

4.6.2 Family type

Table 4.38 reveals that joint families had been comparatively higher beneficiaries compared to nuclear families. DPT vaccines and TT injections had been provided to 67.50 per cent and 79.10 per cent of nuclear families, respectively, while the corresponding figures for joint families stand at 72.30 per cent and 89.80 per cent, respectively. The difference in provision of TT injections between nuclear and joint families is more than 10 percentage points. Such difference also exists in the provision of contraceptive pills and condoms. Only 50.00 per cent of nuclear families and 61.70 per cent of joint families have been provided with contraceptive pills. Health workers provided condoms to 48.30 per cent

Table 4.37: Facilities provided by health workers across places of residence

Place of residence		Pulse polio vaccine		Measles vaccine		DPT vaccine		BCG vaccine		TT injection		Contraceptive pills		IFA tablets		Condoms	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Rural	Number	615	5	425	110	426	194	486	134	517	103	339	281	426	194	304	231
	Per cent	99.20	0.80	79.40	20.60	68.70	31.30	78.40	21.60	83.40	16.60	54.70	45.30	68.70	31.30	56.80	43.20
Urban	Number	60	-	91	54	46	14	46	14	50	10	33	27	46	14	59	86
	Per cent	100.00	-	62.80	37.20	76.70	23.30	76.70	23.30	83.30	16.70	55.00	45.00	76.70	23.30	40.70	59.30
Total	Number	675	5	516	164	472	208	532	148	567	113	372	308	472	208	363	317
	Per cent	99.30	0.70	75.90	24.10	69.40	30.60	78.20	21.80	83.40	16.60	54.70	45.30	69.40	30.60	53.40	46.60

Source: Field survey (Mau), 2015.

Table 4.38: Facilities provided by health workers across types of family

Family type		Pulse polio vaccine		Measles vaccine		DPT vaccine		BCG vaccine		TT injection		Contraceptive pills		IFA tablets		Condoms	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Nuclear	Number	402	4	292	114	274	132	298	108	321	85	203	203	274	132	196	210
	Per cent	99.00	1.00	71.90	28.10	67.50	32.50	73.40	26.60	79.10	20.90	50.00	50.00	67.50	32.50	48.30	51.70
Joint	Number	273	1	224	50	198	76	234	40	246	28	169	105	198	76	167	107
	Per cent	99.60	0.40	81.80	18.20	72.30	27.70	85.40	14.60	89.80	10.20	61.70	38.30	72.30	27.70	60.90	39.10
Total	Number	675	5	516	164	472	208	532	148	567	113	372	308	472	208	363	317
	Per cent	99.30	0.70	75.90	24.10	69.40	30.60	78.20	21.80	83.40	16.60	54.70	45.30	69.40	30.60	53.40	46.60

Source: Field survey (Mau), 2015.

of nuclear families, which is less than that of the 60.90 per cent of joint families covered. IFA tablets were provided to 67.50 per cent of nuclear families and 72.30 per cent of joint families. It may be concluded that joint families had been better covered than nuclear families with regard to facilities provided by the health workers. However, a vast number of nuclear as well as joint families still need to be covered by health workers.

4.6.3 House type

Very poor and poor sections of the population living in huts and kutcha houses, respectively, have been covered less by health workers than middle and economically sound sections of the population, who have pucca and kutcha-pucca houses. A total of 92.90 per cent of huts and 97.30 per cent of kutcha houses had been covered under the pulse polio vaccination, compared to the 100 per cent coverage of pucca and kutcha-pucca houses. It could be that when health workers visited they might have been at work and children also might have been with mothers in the former areas. Hence, about 7.10 per cent of total huts and 2.70 per cent of total kutcha houses had been left unattended for pulse polio vaccination. Likewise, health workers provided measles and BCG vaccines to just 3.60 per cent and 25.90 per cent of kutcha houses, versus approximately 90 per cent of pucca and kutcha-pucca houses.

No huts were given DPT vaccines and IFA tablets, while in the case of provision of TT injections, more than 80 per cent of houses had been left out, with TT injections given to just 17.90 per cent of huts. Likewise, only about one-fifth of total kutcha houses had been provided with DPT vaccines, leaving out about 80 per cent of kutcha houses. As far as provision of contraceptive pills and condoms are concerned, only 3.60 per cent of total huts, 21.40 per cent of total kutcha houses and 62.20 per cent of pucca houses had been covered by health workers. Provision of IFA tablets was almost or completely absent in huts, while only one-fourth of the total kutcha houses had been provided IFA tablets by the health workers. On the other hand, more than 80.00 per cent of pucca and kutcha-pucca houses were given DPT vaccines and IFA tablets, while more than 90.00 per cent of such houses had been covered by provision of TT injections. However, this figure comes down to just above 60.00 per cent of total pucca and kutcha-pucca houses with regard to provision of contraceptive pills and condoms. A considerable gap exists in provision of immunisation and contraceptive facilities, not only between huts and kutcha houses on one hand and kutcha-pucca houses and pucca houses on

the other but also within the pucca and kutcha-pucca houses categories themselves (Table 4.39).

4.6.4 Religion

The gap is also remarkable when provision of these facilities is considered across religions. Provision of health facilities among Muslims is much less than among the Hindus. The pulse polio vaccine had been given to about 99.50 per cent of Hindus versus 98.20 per cent of Muslims. Health workers had provided vaccines for measles, DPT and BCG, and TT injections, to 78.60 per cent, 72.60 per cent, 81.20 per cent and 85.40 per cent of Hindus, respectively, while the corresponding figures for Muslims stand at 62.20 per cent, 53.20 per cent, 60.10 per cent and 73.00 per cent, respectively. A large gap exists in provision of DPT and BCG vaccines between Hindus and Muslims among all vaccines.

A huge gap also exists between Hindus and Muslims with regard to the provision of IFA tablets, measles, DPT and BCG vaccines, and TT injections. Around 72.60 per cent of Hindus and just 53.20 per cent of Muslims were reported to have received IFA tablets from the health workers. As far as provision of contraceptive facilities is concerned, the gap is not so high between Hindus and Muslims. However, it is poor coverage of both religious communities by health workers which is a matter of concern. Conceptive pills and condoms had been provided to 56.10 per cent and 54.80 per cent of Hindus, respectively, while the corresponding figures for Muslims stand at 47.70 per cent and 49.90 per cent of Muslims, respectively.

There is a need not only to reduce gaps in the case of provision of immunisation facilities between the Hindus and Muslims but also to cover more and more of the population from both religious communities to increase the percentage of the population covered under facilities for contraceptive methods.

Table 4.39: Facilities provided by health workers across house types

House type		Pulse polio vaccine		Measles vaccine		DPT		BCG		TT injection		Contraceptive pills		IFA tablets		Condom	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Hut	Number	26	2	1	27	-	28	1	27	5	23	1	27	-	28	1	27
	Per cent	92.90	7.10	3.60	96.40	-	100.00	3.60	96.40	17.90	82.10	3.60	96.40	-	100.00	3.60	96.40
Kutcha	Number	109	3	29	83	23	89	29	83	49	63	24	88	23	89	24	88
	Per cent	97.30	2.70	25.90	74.10	20.50	79.50	25.90	74.10	43.80	56.20	21.40	78.60	20.50	79.50	21.40	78.60
Pucca	Number	209	-	189	20	179	30	195	14	198	11	130	79	179	30	126	83
	Per cent	100.00	-	90.40	9.60	85.60	14.40	93.30	6.70	94.70	5.30	62.20	37.80	85.60	14.40	60.30	39.70
Kutcha-pucca	Number	331	-	297	34	270	61	307	24	315	16	217	114	270	61	212	119
	Per cent	100.00	-	89.70	10.30	81.60	18.40	92.70	7.30	95.20	4.80	65.60	34.40	81.60	18.40	64.00	36.00
Total	Number	675	5	516	164	472	208	532	148	567	113	372	308	472	208	363	317
	Per cent	99.30	0.70	75.90	24.10	69.40	30.60	78.20	21.80	83.40	16.60	54.70	45.30	69.40	30.60	53.40	46.60

Source: Field survey (Mau), 2015.

Table 4.40: Facilities provided by health workers across religions

Religion		Pulse polio vaccine		Measles vaccine		DPT		BCG		TT injection		Contraceptive pills		IFA tablets		Condom	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Hindu	Number	566	3	447	122	413	156	462	107	486	83	319	250	413	156	312	257
	Per cent	99.50	0.50	78.60	21.40	72.60	27.40	81.20	18.80	85.40	14.60	56.10	43.90	72.60	27.40	54.80	45.20
Muslim	Number	109	2	69	42	59	52	70	41	81	30	53	58	59	52	51	60
	Per cent	98.20	1.80	62.20	37.80	53.20	46.80	63.10	36.90	73.00	27.00	47.70	52.30	53.20	46.80	45.90	54.10
Total	Number	675	5	516	164	472	208	532	148	567	113	372	308	472	208	363	317
	Per cent	99.30	0.70	75.90	24.10	69.40	30.60	78.20	21.80	83.40	16.60	54.70	45.30	69.40	30.60	53.40	46.60

Source: Field survey (Mau), 2015.

4.6.5 Social group

Health facilities provided to various social groups also showed differences. General and STs (scheduled tribes) had been covered 100 per cent under the pulse polio vaccine, which is followed by OBC (other backward castes) at 99.40 per cent and SCs (scheduled castes) at 97.20 per cent. Table 4.41 reveals that the upper-caste population had the highest percentage of people who had been provided with health facilities by health workers; this decreased in OBCs, further decreased in SCs and remained lowest among STs. About 87.70 per cent of the upper-caste population had been given the measles vaccine. The corresponding figure decreased to 75.70 per cent in OBCs and to 60.60 per cent in SCs. Only 50.00 per cent of the ST population had been covered under the measles vaccination by the health workers. Likewise, 79.30 per cent of generals, 69.30 per cent of OBCs, 55.00 per cent of SCs and 53.80 per cent of STs were provided with the facility of the DPT vaccine. With regard to provision of the BCG vaccine, 91.60 per cent of generals, 77.20 per cent of OBCs, 62.40 per cent of SCs and 53.80 per cent of STs had been covered by the health workers. The TT injection had been given to 93.10 per cent of the population of generals; this figure was followed by the percentages for OBCs (83.30 per cent), SCs (69.70 per cent) and STs (65.40 per cent). IFA tablets had been provided to 79.30 per cent of the population of generals; this figure was followed by the percentages for OBCs (69.30 per cent), SCs (55.00 per cent) and STs (53.80 per cent). About 60.00 per cent of the upper-caste population had been provided with contraceptive pills and condoms—a figure which stands as the highest in all the social groups. Provision of contraceptive pills and condoms was poor among SCs and STs; as such, much less than half of their populations were covered by health workers. It is clear that provision of healthcare facilities by health workers among SCs and STs is poor.

4.6.6 Education

It is assumed that an educated person is more aware of the health facilities available and provided by the health workers and the uneducated are less informed about the facilities. Table 4.42 reveals that provision of healthcare facilities increases with increase in the education level of the society. A more educated person can better understand what health workers say during their visits to households. All the households headed by persons with education up to middle class and above have been provided with pulse polio vaccinations, while only 92 per cent of

households headed by illiterate persons and 96 per cent of those headed by poorly educated persons (up to primary level) could be covered by health workers for pulse polio immunisation. None of the households headed by illiterate persons have yet been covered for the provision of the DPT vaccine and IFA tablets.

The respective figures for households headed by poorly educated persons were also very low (16 per cent for both). They increased in the case of poorly educated (up to middle) persons to 34.6 per cent for both, and further to 75 per cent and 91.8 per cent, respectively, in the cases of moderately educated persons. Highly educated persons (graduation) had the highest coverage for provision of the DPT vaccine and IFA tablets. More than 90 per cent of the households led by persons with education up to high school level and above had been provided with the facilities of the measles vaccine, BCG vaccine and TT injection, while more than 40 per cent of households led by persons with education of middle school. Similarly, the use of contraceptive pills, condoms and IFA tablets also increased with the increasing level of education as in all the three categories the affirmative response is higher in the higher education category (Table 4.42).

Table 4.41: Facilities provided by health workers across social groups

Social groups		Pulse polio vaccine		Measles vaccine		DPT vaccine		BCG vaccine		TT injection		Contraceptive pills		IFA tablets		Condoms	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
General	Number	203	-	178	25	161	42	186	17	189	14	124	79	161	42	121	82
	Per cent	100.00	-	87.70	12.30	79.30	20.70	91.60	8.40	93.10	6.90	61.10	38.90	79.30	20.70	59.60	40.40
OBC	Number	340	2	259	83	237	105	264	78	285	57	188	154	237	105	184	158
	Per cent	99.40	0.60	75.70	24.30	69.30	30.70	77.20	22.80	83.30	16.70	55.00	45.00	69.30	30.70	53.80	46.20
SC	Number	106	3	66	43	60	49	68	41	76	33	51	58	60	49	49	60
	Per cent	97.20	2.80	60.60	39.40	55.00	45.00	62.40	37.60	69.70	30.30	46.80	53.20	55.00	45.00	45.00	55.00
ST	Number	26	-	13	13	14	12	14	12	17	9	9	17	14	12	9	17
	Per cent	100.00	-	50.00	50.00	53.80	46.20	53.80	46.20	65.40	34.60	34.60	65.40	53.80	46.20	34.60	65.40
Total	Number	675	5	516	164	472	208	532	148	567	113	372	308	472	208	363	317
	Per cent	99.30	0.70	75.90	24.10	69.40	30.60	78.20	21.80	83.40	16.60	54.70	45.30	69.40	30.60	53.40	46.60

Source: Field survey (Mau), 2015.

Table 4.42: Facilities provided by health workers across levels of education

Level of education		Pulse polio vaccine		Measles vaccine		DPT vaccine		BCG vaccine		TT injection		Contraceptive pills		IFA tablets		Condoms	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Illiterate	Number	46	4	2	48	-	50	2	48	11	39	2	48	-	50	2	48
	Per cent	92.00	8.00	4.00	96.00	-	100.00	4.00	96.00	22.00	78.00	4.00	96.00	-	100.00	4.00	96.00
Primary	Number	24	1	5	20	4	21	5	20	11	14	3	22	4	21	3	20
	Per cent	96.00	4.00	20.00	80.00	16.00	84.00	20.00	80.00	44.00	56.00	12.00	88.00	16.00	84.00	12.00	80.00
Middle	Number	104	-	40	64	36	68	40	64	54	50	32	72	36	68	32	64
	Per cent	100.00	-	38.50	61.50	34.60	65.40	38.50	61.50	51.90	48.10	30.80	69.20	34.60	65.40	30.80	61.50
High School	Number	188	-	168	20	141	47	174	14	179	9	115	73	141	47	113	20
	Per cent	100.00	-	89.40	10.60	75.00	25.00	92.60	7.40	95.20	4.80	61.20	38.80	75.00	25.00	60.10	10.60
Intermediate	Number	171	-	162	9	157	14	169	2	170	1	119	52	157	14	115	9
	Per cent	100.00	-	94.70	5.30	91.80	8.20	98.80	1.20	99.40	0.60	69.60	30.40	91.80	8.20	67.30	5.30
Graduation and above	Number	142	-	139	3	134	8	142	-	142	-	101	41	134	8	98	3
	Per cent	100.00	-	97.90	2.10	94.40	5.60	100.00	-	100.00	-	71.10	28.90	94.40	5.60	69.00	2.10
Total	Number	675	5	516	164	472	208	532	148	567	113	372	308	472	208	363	164
	Per cent	99.30	0.70	75.90	24.10	69.40	30.60	78.20	21.80	83.40	16.60	54.70	45.30	69.40	30.60	53.40	24.10

Source: Field survey (Mau), 2015.

4.6.7 Income

Table 4.43 shows health facilities provided by health workers to households with low incomes (less than Rs. 5,000), moderate incomes (Rs. 5,000–10,000) and high incomes (Rs. 10,000). The percentage of households with provision of health facilities increased with an increase in level of income. Only 98.60 per cent of low-income households had received the pulse polio vaccine while all the households (100 per cent) with a monthly income more than Rs. 5,000 had received the pulse polio vaccine.

The percentage of households covered under the measles vaccine varied from a minimum of 57.90 per cent in the low-income group to 97.10 per cent in the high-income group. Health workers had provided the DPT vaccine and IFA tablets to 53.40 per cent of households in the low-income group, which increased to 82.30 per cent of households in the moderate-income group and further to 93.50 per cent of households in the high-income group. Likewise, health workers provided the BCG vaccine to 60.10 per cent of low-income households, which increased to 96.10 per cent of households in the moderate-income group and further to 100 per cent of households in the high-income group.

About 70.00 per cent of the total low-income households had been provided with the TT injection, whereas the figures stand at 98.40 per cent and 100 per cent in the moderate- and high-income group households, respectively. Provision of contraceptive pills and condoms to all households was poorer than that of immunisation facilities. Only 42.10 per cent of households in the low-income group had been covered by contraceptive pills versus67.20 per cent of households in the moderate-income group and 70.30 per cent in the high-income group. Condoms had been given by the health workers to only 41.30 per cent of households in the low-income group, which increased to 65.60 per cent of households in the moderate-income group and 68.10 per cent of households in the high-income group. Thus, the provision of health facilities by health workers was poor among the low-income group. However, a vast number of households in all income groups had also not been provided with any health facility at all. Besides this, variations in the provision of various health facilities also existed within all income groups.

4.6.8 Occupation

Table 4.44 shows the occupations of respondents and facilities provided by health workers. The pulse polio vaccine had been provided the most (100 per cent) to other wage earners, industrial workers and people engaged in the service sector, while farmers had been covered slightly less than above, i.e., 99.40 per cent. The provision was found to be highest among the people engaged in other works. A large gap was found in the provision of health services among labourers. A total of 76.50 per cent of industrial workers' households had been provided the DPT vaccine and IFA tablets. The percentage of households of industrial workers, however, is lower regarding the facilities of contraceptive pills (64.70 per cent) and condoms (52.90 per cent). Provision of health facilities by health workers was found to be lowest among other wage earners, followed by farmers, in contrast with the highest among industrial workers, which is followed by service. Among service-based households, more than 80.00 per cent of households had been provided with facilities of vaccination—i.e., measles, DPT, BCG—and IFA tablets, whereas a little more than two-thirds of the population had been covered for contraceptive facilities of pills and condoms. About 70 to 75 per cent of farmers had been provided the measles, BCG and DPT vaccines, TT injection and IFA tablets, while the percentage further dips to 53.60 per cent with regards to provision of contraceptive pills and condoms. The analysis shows that large gaps exist with regard to provision of health facilities by health workers.

Table 4.43: Facilities provided by health workers across income groups

Level of Income		Pulse polio vaccine		Measles vaccine		DPT vaccine		BCG vaccine		TT injection		Contraceptive pills		IFA tablets		Condoms	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
< 5,000	Number	351	5	206	150	190	166	214	142	246	110	150	206	190	166	147	209
	Per cent	98.60	1.40	57.90	42.10	53.40	46.60	60.10	39.90	69.10	30.90	42.10	57.90	53.40	46.60	41.30	58.70
5,000–10,000	Number	186	-	176	10	153	33	180	6	183	3	125	61	153	33	122	64
	Per cent	100.00	-	94.60	5.40	82.30	17.70	96.80	3.20	98.40	1.60	67.20	32.80	82.30	17.70	65.60	34.40
> 10,000	Number	138	-	134	4	129	9	138	-	138	-	97	41	129	9	94	44
	Per cent	100.00	-	97.10	2.90	93.50	6.50	100.00	-	100.00	-	70.30	29.70	93.50	6.50	68.10	31.90
Total	Number	675	5	516	164	472	208	532	148	567	113	372	308	472	208	363	317
	Per cent	99.30	0.70	75.90	24.10	69.40	30.60	78.20	21.80	83.40	16.60	54.70	45.30	69.40	30.60	53.40	46.60

Source: Field survey (Mau), 2015.

Table 4.44: Facilities provided by health workers across occupations

Occupation		Pulse polio vaccine		Measles vaccine		DPT vaccine		BCG vaccine		TT injection		Contraceptive pills		IFA tablets		Condoms	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Farmers	Number	165	1	124	42	117	49	127	39	138	28	89	77	117	49	89	77
	Per cent	99.40	0.60	74.70	25.30	70.50	29.50	76.50	23.50	83.10	16.90	53.60	46.40	70.50	29.50	53.60	46.40
Industrial workers	Number	17	-	16	1	13	4	16	1	16	1	11	6	13	4	9	8
	Per cent	100.00	-	94.10	5.90	76.50	23.50	94.10	5.90	94.10	5.90	64.70	35.30	76.50	23.50	52.90	47.10
Service	Number	262	-	229	33	213	49	239	23	244	18	164	98	213	49	159	103
	Per cent	100.00	-	87.40	12.60	81.30	18.70	91.20	8.80	93.10	6.90	62.60	37.40	81.30	18.70	60.70	39.30
Other wage earners	Number	231	4	147	88	129	106	150	85	169	66	108	127	129	106	106	129
	Per cent	98.30	1.70	62.55	37.45	54.89	45.11	63.83	36.17	71.91	28.09	45.96	54.04	54.89	45.11	45.11	54.89
Total	Number	675	5	516	164	472	208	532	148	567	113	372	308	472	208	363	317
	Per cent	99.30	0.70	75.90	24.10	69.40	30.60	78.20	21.80	83.40	16.60	54.70	45.30	69.40	30.60	53.40	46.60

Source: Field survey (Mau), 2015.

4.7 Health camp

The objective of conducting the health camp was to create awareness of general health among the people, provide general healthcare services, and counsel them on basic healthcare and hygiene. The camps were organised by the government health workers. The main objective was to make people aware of the health issues through several demonstration programmes using audio-visual mediums so that everyone could easily understand the basic features including gain and loss.

Table 4.45 gives an insight of the organisation of health camps in the localities. Almost 93 per cent of people were of the view that health camps were organised in their localities while only 6.5 per cent denied that any such activity took place.

Table 4.45: Health camp in the locality

Health camp	Number	Per cent
Yes	630	92.6
No	44	6.5
Do not know	6	0.9
Total	680	100

Source: Field survey (Mau), 2015.

4.7.1 Camp type

A major share of the population (71 per cent) found vaccination camps to be more frequently organised by the health workers; 15 per cent found these camps related to other health issues, while only 6.3 per cent were of the view that these camps were related to several health awareness programmes. Nearly 8 per cent were found to be ignorant of such camps (Table 4.46).

Table 4.46: Purpose of organisation of health camps

Health camp purpose	Number	Per cent
Health awareness	43	6.3
Other health issues	103	15.1
Vaccination	484	71.2
Do not know	50	7.4
Total	680	100

Source: Field survey (Mau), 2015.

4.7.2 Camp frequency

Table 4.47 depicts the frequency of occurrence of organisation of health camps in respondents 'localities. It is evident from Table 4.47 that almost half of the total people said that these camps are organised twice a year, while over one-third (38.7 per cent) found them to be taking place only once a year. In some localities, the camps are organised more frequently; hence, 1.3 per cent stated that they took place thrice a year.

Table 4.47: Frequency of organisation of health camps (Yearly)

Frequency	Number	Per cent
Once	263	38.7
Twice	358	52.6
Thrice	9	1.3
Do not know	50	7.4
Total	680	100

Source: Field survey (Mau), 2015.

4.8 Free check-up

Table 4.48: Free check-up at government healthcare institutions

Free check-up	Number	Per cent
Yes	17	2.5
No	292	42.9
Sometimes	242	35.6
Do not know	129	19
Total	680	100

Source: Field survey (Mau), 2015.

Some free medical check-ups also took place in the government healthcare institutions, but their prevalence is comparatively poor in the study area. Over 42 per cent of the respondents were of the view that free check-ups do not take place, while 35.6 per cent said that they took place only sometimes. Almost one-fourth were ignorant of such free medical check-ups (Table 4.48). Only about 2.5 per cent said that such check-ups occurred. The awareness level and the interest of the people in availing themselves of the health facilities played a decisive role in the respondents' views. Such free check-ups are necessary for the people's awareness of the study area.

4.9 Conclusions

- Utilisation of government healthcare facilities by families living in urban areas is greater in comparison to those in the villages.
- Utilisation of available health facilities at the district hospital is poor among both rural and urban areas for two main reasons: first, its location in the largest urban centre of the district, where a sufficient number of good private hospitals provide perceptively better health services; and second, it is found suitable for critical diseases, not as a place of first visit in case of illness.
- CHCs have been utilised by females more than males for first visits in case of illness due to many flagship programmes running in government health facilities specifically for women.
- The respondents whose monthly family incomes are less than Rs. 5,000 have the highest (36.50 per cent) dependency on CHCs while the proportions of respondents who visited private hospitals in case of illness were found to be highest in the income categories of above Rs. 5,000.
- Distribution of free medicines and low cost of medication—doctors' fees, diagnostic charges, etc.—at CHCs are the major factors for attracting low-income and poor people, while PHCs are ill-equipped and unmaintained where unavailability of doctors and paramedical staff are common features.
- The percentage of total deliveries attended by trained staff at home also increases with an increase in a household's income. Moreover, not a single woman belonging to the high-income group (more than Rs. 10,000) delivered at home; so, by implication, it can be argued that if comfortable institutional deliveries are to be ensured we need to improve the economic condition of families. It is found that household income has a positive correlation with safe institutional deliveries and deliveries performed by trained personnel.
- The very poor and poor sections of the population living in huts and kutcha houses, respectively, have been covered less by health workers than middle and economically sound sections of the population who have pucca and kutcha-pucca houses. A total of 92.90 per cent of huts and 97.30 per cent of kutcha houses have been covered under the pulse polio vaccination versus the 100-per-cent coverage of pucca and kutcha-pucca houses. It could be that when health workers visited the former respondents they might have been at work and children also might have been with their mothers at those areas.

- The uneducated are less aware about the healthcare facilities. Table 4.42 reveals that the provision of healthcare facilities increases with the increase in education level of the society.
- The percentage of households covered under the measles vaccine varies from a minimum of 57.90 per cent in the low-income group to 97.10 per cent in the high-income group. Health workers had provided the DPT vaccine and IFA tablets to 53.40 per cent of households in the low-income group, which increased to 82.30 per cent of households in the moderate-income group and further to 93.50 per cent of households in the high-income group.

CHAPTER 5

PEOPLES' PERCEPTION OF HEALTHCARE FACILITIES

Every society has its own indigenous system of healing, which offers medical care to its citizens prior to the advent and expansion of Western medicine. The indigenous systems of medicine were developed in different countries and incorporated innovations at times. The Ayurveda and Unani methods are vital among them. The allopathic method, which is comparatively novel to this country, was brought in by the Europeans. During the British rule, health services were developed primarily for serving British nationals and their families; consequently, they remained limited to urban centres. A large number of poor and rural people did not get access to these created facilities. The modern medicine system is dependent on the decisions of doctors about the disease and the treatment. It is only recently when the choice or opinion of patients about the existing healthcare facility has been taken into account. With the introduction of a critical social science perspective in health service research, the perception of patients about the existing facilities, quality of care and method of treatment became worthy of being considered. Patients these days are more aware and have become more quality conscious than before. A high level of quality of the availabilities of healthcare facilities, which can translate into patient satisfaction, has become an important part of in-house patient care (Kotler and Clarke1987). People's perception and users' satisfaction are important aspects in the assessment of the health institutions because they are generally assumed to be a significant determinant of repeat visits, positive word-of-mouth, and patients' loyalty (Donabedian 1988). Still, patients' perceptions about health services get largely ignored by healthcare providers across developing countries, though perceptions, especially about the service quality, might shape confidence and subsequent behaviours of patients with regard to choice of health institutions (Andaleeb 2001).

Healthcare utilisation has particular relevance as a public health and development issue. Unlike material and human capital, there is little

empirical evidence about the utility of social resources in overcoming barriers to healthcare utilisation. One of the complications in evaluating health status arises from the fact that a person's own understanding of his or her health may not accord with the appraisal of medical experts. More generally, there is a conceptual contrast between "internal" views of health (based on the patient's own perceptions) and the "external" views (based on the observations of doctors or pathologists). Although the two views can certainly be combined (a good practitioner would be interested in both), major tension often exists between evaluations based respectively on these two perspectives. For sensory assessment (feelings of the patients), the priority of the internal view can hardly be disputed since pain is quintessentially a matter of self-perception. If one feels pain, one suffers from pain, and if one does not feel pain, then no external observer can sensibly reject the view that one does not have pain. Medical practice should not be concerned only with the sensory dimension of ill health. One problem with relying on the patient's own view of matters that are not entirely sensory lies in the fact that the patient's internal assessment may be seriously limited by his or her social experience.

It is known that different states of India have diverse medical conditions, varying mortality rates, educational achievements, and so on. The state of Kerala has the highest levels of literacy (nearly universal for the young) and highest longevity (a life expectancy of about 74 years) in India. But it also has, by a very wide margin, the highest rate of reported morbidity among all Indian states (this applies to age-specific as well as total comparisons). At the other extreme, states with low longevity and with woeful medical and educational facilities, state as Bihar, have the lowest rates of reported morbidity in India. Indeed, the lower level of reported morbidity runs almost fully in the opposite direction to life expectancy, taking inter-state comparisons into account. There is a strong need for scrutinising the statistics on self-perception of illness in a social context by taking note of levels of education, availability of health facilities, and public information on illness and remedy. The internal view of health deserves attention, but relying on it in assessing healthcare or in evaluating medical strategy can be extremely misleading. Healthcare providers can influence patients to make healthier lifestyle choices, such as stopping smoking, increasing physical activity, making healthy dietary modifications and complying with cancer screening recommendations (Dube et al. 2000; Whitlock et al. 2002).

In the present study, a representative sample of households in the study area has been used to explore factors associated with patients' perceptions

about availability of healthcare facilities and their quality. It found that patients with continuous access to a provider and health services were significantly more likely to report their illnesses to the healthcare delivery system. These findings are not surprising considering the wealth of evidence about the benefits of healthcare delivery and a continuity of utilisation and perception relationship. In contrast, the study has suggested that providers communicate more effectively with patients who are members of different minority and social groups, with older patients, and with those who have lower educational attainment. Gender has also been found as a variable that influences patient perceptions of communication risk. A patient may have two types of perceptions, namely perception of the disease/illness and the perception of the treatment process.

The majority of the people consider ill health as a normal part of life to a point where it does not become extreme. It is believed that people cannot always remain in very good health because of poor living conditions and the presence of spirits and witches in society. Patients generally identify their illness on the basis of change in normal condition—i.e., symptoms. The majority have ideas about symptoms and the associated common diseases such as a cold or food poisoning but may not have clarity when it comes to other complex and less prevalent diseases. However, when people are diagnosed with a severe illness, they soon develop perceptions of the symptoms that are caused by the illness. It is important to note that the patient's view of the symptoms sometimes is quite different from that of the medical staff.

The treatment of disease in any particular society depends on the world view of the people concerned. It is directly related to the attitude of the general public with respect to looking at the universe that is known to the particular individual or a community (Sarkar 1993). A new view of healthcare is emerging in which patients are expected and encouraged to take a more active role in taking decisions about their treatment. However, little is known in the study area about how patients make decisions or about the source of preferences for a particular type of treatment. In the majority of the cases, the decisions are taken on the basis of either the availability or the cost. There are few informed real choices available for the patients. The information about the availability of the doctors and their specialisations beyond the medical paraphrasing is essential if patients have to make informed, rational decisions about the management of their illnesses. Previous attempts to understand the way in which patients make decisions about their treatment have examined patients' beliefs about their illnesses but have ignored the interplay that exists between patients'

illnesses and treatment perceptions (Robert 1999). When patients are diagnosed with a disease known to them, they generally develop an organised pattern of beliefs about their condition. These views often become key determinants of behaviour directed at managing illness. It is a dynamic process which changes in response to shifts in patients' perceptions and ideas about their illnesses.

These illness perceptions or cognitive representations influence the individual's emotional response to the illness and their coping behaviour, such as adherence to treatment. Despite their importance, patients' views of their illnesses or symptoms are rarely taken into account in medical interviews and patients are discouraged to share their beliefs about the illnesses with doctors and health professionals. Illness perceptions matter and awareness of patients' beliefs can improve both communication in medical consultations and also outcomes of treatment. Causal beliefs are important in some illnesses as they can influence the types of treatments that patients seek for their conditions or the changes, they make to control their illnesses in a logical way. Patients' perceptions can be based on information from different sources. Therefore, patients' illness perceptions do not necessarily represent the medical statuses of the diseases (Jitskeetal. 2011). As calls are made for a more patient-centred healthcare system, it becomes critical to define and measure patient perceptions of healthcare quality and to understand more fully what drives those perceptions.

This chapter identifies the peoples' perceptions of healthcare facilities, patient satisfaction and the difficulty of determining whether systematic variations in patient perceptions should be attributed to differences in expectations or actual experiences.

5.1 Knowledge and perception of respondents

Awareness generation about various health needs, provisions and entitlements is vital to triggering the demand for services, which ultimately generates success of healthcare delivery systems and a particular scheme. People's self-perceptions about their health are very important and can serve as proxy measures for the perceived health conditions. Health knowledge is the degree to which individuals can obtain, process and understand the basic health information and services they need to make appropriate health decisions. Level of education, communication system and health knowledge are significant bottlenecks in developing a patient-friendly healthcare delivery system. Rao (2004), in his study, has highlighted the impact of low health knowledge and found a

relationship between low health knowledge and poor health outcomes. Communication is the main weapon used to change the behaviour of people about innovative health practices and also to change the treatment process.

5.1.1 Knowledge about the NRHM

Knowledge about the NRHM is one of the important issues in Indian society, while considering the utilisation of public healthcare facilities. Table 5.1 shows the knowledge of the respondents about the NRHM according to their background characteristics.

It is clear from the table that a higher proportion of male respondents know about the NRHM as compared to their female counterparts. In the tradition and rural society of the study area, women have very limited access to the sources of information; that is why about half of female respondents did not have any information about the NRHM. While considering religion-wise awareness about the NRHM, it has been noticed that a higher percentage (68.20 per cent) of Hindu respondents had knowledge about the NRHM as compared to Muslim (47.70 per cent) respondents. Lower level of literacy among Muslims is the prime cause of this low level of knowledge about the NRHM. Table 5.1 further reveals that level of educational attainment has a positive association with awareness about the NRHM. No illiterate respondents had known about the NRHM. Household income has its strong association with knowledge about the NRHM. Respondents from higher income groups had good knowledge about the NRHM as compared to their poorer counterparts. Economically well-off families possess different sources of information like newspapers, TVs and phones. By this connection, the rich people have knowledge about the NRHM. Social structure of the society has its direct influence on access to information. In the present study, socio-economically well-off upper-caste people had better knowledge of the NRHM as compared to socio-economically deprived castes, i.e., OBC (59.90 per cent), SC (49.50 per cent) and ST (30.80 per cent). Agricultural labourers, which belong to the lowest economic strata of the society, had poor knowledge about the NRHM as compared to respondents engaged in other occupations. Younger respondents had poor knowledge about the NRHM as compared to their older counterparts because of lack of awareness and lack of communication facilities in rural areas, which is usual (Table 5.1).

Table 5.1: Respondents' awareness of the NRHM across background characteristics

Attribute		Number of Respondents	Knowledge of the NRHM (in per cent)	
			Yes	No
Sex	Male	535	69.00	31.00
	Female	145	49.70	50.30
Religion	Hindu	569	68.20	31.80
	Muslim	111	47.70	52.30
Residence	Rural	620	66.00	34.00
	Urban	60	53.30	46.70
Level of Education	Illiterate	50	-	100.00
	Primary	25	-	100.00
	Middle	104	5.80	94.20
	High School	188	76.10	23.90
	Intermediate	171	87.70	12.30
	Graduation and above	142	100.00	-
Level of Income	< 5,000	356	38.80	61.20
	5,000 10,000	186	88.70	11.30
	>10,000	138	100.00	-
Social group	General	203	85.70	14.30
	OBC	342	59.90	40.10
	SC	109	49.50	50.50
	ST	26	30.80	69.20
Occupation	Farmers	166	45.20	54.80
	Industrial workers	17	100.00	-
	Services	262	88.50	11.50
	Other wage earners	235	49.79	50.21
Age group	< 30	174	62.60	37.40
	30 35	195	43.60	56.40
	35 40	154	76.00	24.00
	40 45	118	77.10	22.90
	> 45	39	100.00	-
Total		680	64.90	35.10

Source: Field survey (Mau), 2015.

5.1.2 Multivariate analysis

Multiple logistic analysis has been used in order to find out the association between factors like religion, caste, family type, education, income, occupation and age of respondents and awareness about the NRHM. Table 5.2 presents the result of logistic regression assessing the association between awareness about the NRHM and the explanatory variables. The study has used a 95-per-cent confidence level for the analysis. The result shows that a respondent's education, per-month family income and occupation were significantly associated with awareness. In contrast to this, family type, religion, caste, age group and sex are not significantly associated with awareness. Respondents who were in the government service, private service and employed in industries were more likely to be aware compared to the respondents who were engaged in agriculture and allied activities and casual labour. Multiple logistic analysis revealed that mothers with poor economic status (below Rs. 5,000 per-month family income) were less likely to be aware compared to the respondents with better economic conditions (Rs. 5,000–10,000 and above Rs. 10,000 per-month income). Because of this, the odd ratios for the latter are 1.6 and 2.3 times higher, respectively. Similarly, education has a strong association with knowledge about the NRHM. For instance, the odd ratios for respondents educated up to high school and above high school are 2.05 and 3.15 times more, respectively, than those of uneducated or less-educated respondents.

5.2 Level of satisfaction with treatment

Table 5.3 shows the level of satisfaction of respondents with medicine provided by the public healthcare facilities. It is disheartening to note that none of the female respondents were satisfied with the medicines. A little less than one-third of the total female respondents were not aware of whether or not they were satisfied with the medicines. A large proportion of female respondents got Iron and Folic Acid tablets from the public healthcare facilities and they used these tablets to cure different types of diseases. Hindu and Muslim respondents had similar levels of satisfaction with medicine. More than one-third of the Muslim respondents reported that they did not know about the medicine provided. While considering the place of residence and level of satisfaction with the medicine, it was found that respondents in urban areas were more satisfied with the medicine provided as compared to their rural counterparts.

Table 5.2: Level of awareness about the NRHM according to selected socio-economic and demographic characteristics

Variables		Exp(B)	95% C.I. for EXP(B)	
			Lower	Upper
Religion	Muslim			
	Hindu	0.239	0.071	0.804
Social group	ST			
	SC	6.387	1.145	35.623
	OBC	3.222	0.705	14.725
	UC	5.507	1.068	28.394
Age	Below 30			
	30 to 45	0.009	0.003	0.035
	Above 45	2.507	1.068	22.394
Sex	Female			
	Male	2.319	0.5	10.747
Level of education	Illiterate			
	Up to high school	2.051**	0.005	5.623
	Above high school	3.158**	2.705	24.725
Level of income	Below 5,000			
	5,000 to 10,000	1.611**	8.071	23.804
	Above 10,000	2.356**	0.754	12.846
Occupation	Other wage earners			
	Farmers	0.02	0.005	0.086
	Industrial workers	1.522**	0.387	17.542
	Services	2.263**	0.067	7.033
House type	Hut			
	Kutcha	0.129	1.587	45.687
	Pucca	2.852	0.589	31.564
	Kutcha-pucca	1.872	1.159	33.658
Family type	Nuclear			
	Joint	0.723	0.225	2.328
Constant		0.26		

Note: $**p<0.05$.
Comment: Education, income and occupation of respondents are the important predictors of awareness about the NRHM.

Table 5.3: Level of satisfaction of respondents with medicine across background characteristics

Attribute		Number of Respondents	Satisfaction with medicine (in %)		
			Yes	No	Do not know
Sex	Male	535	13.80	26.70	59.40
	Female	145	-	71.00	29.00
Religion	Hindu	569	10.90	39.00	50.10
	Muslim	111	10.80	21.60	67.60
Residence	Rural	620	9.70	37.40	52.90
	Urban	60	23.30	23.30	53.30
Level of education	Illiterate	50	-	24.00	76.00
	Primary	25	-	44.00	56.00
	Middle	104	26.90	42.30	30.80
	High School	188	14.40	32.40	53.20
	Intermediate	171	-	39.20	60.80
	Graduation and above	142	13.40	35.90	50.70
Level of income	< 5,000	356	15.40	41.90	42.70
	5,000 10,000	186	9.10	24.70	66.10
	>10,000	138	1.40	37.00	61.60
Social group	General	203	5.90	39.90	54.20
	OBC	342	10.50	33.00	56.40
	SC	109	15.60	40.40	44.00
	ST	26	34.60	30.80	34.60
Occupation	Farmers	166	9.00	68.70	22.30
	Industrial workers	17	100.0	-	-
	Services	262	3.10	19.10	77.90
	Other wage earners	235	14.47	34.89	50.64
Age group	< 30	174	18.40	40.80	40.80
	30 35	195	9.70	57.90	32.30
	35 40	154	14.90	23.40	61.70
	40 45	118	-	22.00	78.00
	> 45	39	-	-	100.00
Total		680	10.90	36.20	52.90

Source: Field survey (Mau), 2015.

People in towns were more conscious about their health and availability and they did know which medicine should be used for a particular disease while rural people tried to cure all the diseases with the same medicine due to unawareness. Rural people were less satisfied with medicine provided. Level of education and income had their positive impact on level of satisfaction with the medicine. Respondents with higher education and good economic backgrounds were more satisfied with the medicine provided as compared to respondents with poor education and poor economic levels. Among different social strata, STs (34.60 per cent) were more satisfied with the medicine provided as compared to respondents of other castes. STs had fewer options to change or get good medicine, and they were forced to use the medicine provided; therefore, they were not aware of the impact of other medicines. Socio-economically well-off general-castes respondents had ample opportunities to test the impact of other medicine, so they were less satisfied with the medicine provided. Another reason is that socio-economically deprived respondents had the need to get the free medicine for complex diseases, while well-off respondents had the option to go for a specialised facility. It is good to note that industrial workers were fully satisfied with the medicine provided.

5.3 Problems during hospitalisation

Table 5.4 shows problems faced by the respondents who were hospitalised at any time. It is to be noted that only 23 per cent of the respondents are actually hospitalised. According to survey, in the study area, it is noted that the people faced several problems when they or their family members were admitted to public hospitals/CHCs/PHCs. Table 5.4 presents the problems faced by the respondents during their stays at different institutions according to their background characteristics (sex, religion, residence, education, income, social group, occupation and age group).

Table 5.4: Problems faced during hospitalisation across background characteristics

Attribute		Number of respondents	Problem faced during admittance (in %)						
			Fewer doctor visits	Poor-quality care	Over-crowding	Misconduct by paramedical staff	Lack of bed	Poor infrastructure	Not admitted
Sex	Male	535	0.70	13.80	1.90	1.30	0.60	1.10	80.60
	Female	145	13.80	17.20	-	4.80	-	-	64.10
Religion	Hindu	569	3.30	14.60	1.80	1.10	0.50	0.90	77.90
	Muslim	111	4.50	14.40	-	7.20	-	0.90	73.00
Residence	Rural	620	3.90	16.00	1.60	2.30	0.50	1.00	74.80
	Urban	60	-	-	-	-	-	-	100.00
Level of education	Illiterate	50	18.00	18.00	-	-	6.00	-	58.00
	Primary	25	16.00	-	-	28.00	-	-	56.00
	Middle	104	10.60	17.30	-	-	-	5.80	66.30
	High School	188	-	13.30	-	3.70	-	-	83.00
	Intermediate	171	-	27.50	5.80	-	-	-	66.70
	Graduation and above	142	-	-	-	-	-	-	100.00
Level of income	< 5,000	356	6.70	20.80	2.80	3.90	0.80	1.70	63.20
	5,000–10,000	186	-	13.40	-	-	-	-	86.60
	>10,000	138	-	-	-	-	-	-	100.00
Social group	General	203	2.00	13.30	1.00	-	0.50	0.50	82.80
	OBC	342	4.10	15.20	0.90	2.30	-	1.20	76.30
	SC	109	4.60	14.70	3.70	3.70	1.80	0.90	70.60
	ST	26	3.80	15.40	3.80	7.70	-	-	69.20

Occupation	Farmers	166	2.40	24.10	6.00	-	-	3.60	63.90
	Industrial workers	17	-	-	-	-	-	-	100.00
	Services	262	4.20	17.90	-	2.70	-	-	75.20
	Other wage earners	235	3.83	5.11	-	2.98	1.28	-	86.81
Age group	< 30	174	5.20	37.40	5.70	4.00	-	-	47.70
	30–35	195	-	-	-	-	-	3.10	96.90
	35–40	154	-	5.80	0.00	4.50	1.90	-	87.70
	40–45	118	12.70	21.20	-	-	-	-	66.10
	> 45	39	-	-	-	-	-	-	100.00
Total		680	3.50	14.60	1.50	2.10	0.40	0.90	77.10

Source: Field survey (Mau), 2015.

While considering sex, it has been found that female respondents faced more problems as compared to their male counterparts. Fewer visits by doctors, poor quality of care and misconduct by paramedical staff had been the main problems reported by the female respondents. Similar proportions of Hindu and Muslim respondents reported problems like fewer visits by doctors, poor quality of care and misconduct by paramedical staff. In rural areas, people faced more problems as compared to respondents in urban areas. Lack of awareness among rural people was the main reason for these problems. Respondents with higher education and good economic statuses faced fewer problems as compared to their counterparts. Among different social groups, SCs and STs faced more problems. Level of educational attainment and economic status of SCs and STs are comparatively lower, so they were forced to face various problems. Other wage earners and industrial workers faced fewer problems as compared to respondents engaged in other occupations. Other wage earners and industrial workers visited public healthcare facilities occasionally and they were not aware of the facilities being provided by the government. Therefore, these people perceived fewer problems at public healthcare institutions. Respondents in the middle age group encountered more problems as compared to their younger and older counterparts.

5.4 Level of satisfaction with government health facilities

In most developing countries such as India, utilisation of basic health services has remained poor. Patients' satisfaction is considered as one of the desired outcomes of healthcare and it is directly related to utilisation of health services such as immunisation of children and pregnant women, distribution of Iron and Folic Acid tablets and contraceptives, safe delivery and post-delivery care of mothers and children, treatment for acute respiratory infection (ARI) and diarrhoea in children, intra-ocular lens implant and cataract operations, family planning information dissemination, AIDS awareness, tuberculosis treatment, leprosy treatment, and free medicine and diagnosis. But it is difficult to measure the satisfaction responsiveness towards the health systems as not only the clinical but also the non-clinical outcomes of care do influence the customer satisfaction. Patient satisfaction depends upon many factors such as: quality of clinical services provided, availability of medicine, behaviour of doctors and other health staff, cost of the services, hospital infrastructure, physical comfort, emotional support and respect for patient preferences. The difference between patient expectation and the service received is related to varying

levels of satisfaction. Therefore, assessing patient perspectives gives them a voice, which can make public health services more responsive to people's needs and expectations.

5.4.1 Place of residence and level of satisfaction

Satisfaction with government health schemes/services varied according to place of residence. In both rural and urban areas, more than one-fifth of the total respondents were not satisfied with government health schemes. It is interesting to note that the highest number of respondents reported lack of transparency as the main reason. In rural areas, 17.10 per cent of the respondents were satisfied with these schemes because they perceived these schemes as less expensive while in urban areas only 26.70 per cent perceived these schemes as convenient. Mismanagement in the delivery system was perceived to be the main reason behind dissatisfaction in both rural and urban areas.

Table 5.5: Satisfaction with government health schemes across places of residence

Reasons	Rural		Urban		Total	
	Num-ber	per cent	Num-ber	per cent	Num-ber	per cent
Good facility	42	6.80	6	10.00	48	7.10
Easy access	65	10.50	6	10.00	71	10.40
Less expensive	106	17.10	-	-	106	15.60
Convenient	25	4.00	16	26.70	41	6.00
Timely help	19	3.10	-	-	19	2.80
Poor quality	35	5.60	-	-	35	5.10
Lack of transparency	136	21.90	12	20.00	148	21.80
Mismanagement	79	12.70	12	20.00	91	13.40
Low awareness	76	12.30	8	13.30	84	12.40
Class discrimination	11	1.80	-	-	11	1.60
High number of formalities	26	4.20	-	-	26	3.80
Total	620	100.00	60	100.00	680	100.00

Source: Field survey, 2015.

Further lack of awareness is another reason for unsuccessful implementation of these schemes. Illiterate and poor rural masses are dissatisfied because of the large number of formalities related with these schemes. A small proportion of respondents from the rural areas showed

their dissatisfaction due to class discrimination in these schemes while selecting beneficiaries. In rural areas, a very small percentage considered these schemes as timely help, while in urban areas respondents did not perceive these schemes as timely help at all. It was found that respondents in urban areas were more satisfied as compared to their rural counterparts with the facilities associated with these schemes.

5.4.2 Educational attainment and level of satisfaction

An individual's education is said to directly affect his/her perception of the facilities. In the study area, respondents with different educational backgrounds perceived government healthcare schemes differently. The majority of the respondents irrespective of their educational attainment were dissatisfied with these schemes due to lack of transparency. More than two-thirds of the total illiterate respondents had a low level of awareness about these health schemes; therefore, they were dissatisfied with facilities, and they reported that the government had done nothing for poor.

It is good to note that 18 per cent of the total illiterate respondents found these schemes easily accessible. A little less than one-third of respondents with primary education were satisfied with these schemes as they perceived these schemes as convenient. Half of the respondents with primary education had low level of awareness regarding these schemes. A very high percentage of respondents with education up to high school were satisfied with these schemes as they perceived these schemes as easily accessible, less expensive and convenient. More than three-fourths of respondents with education up to intermediate were dissatisfied with these schemes because of lack of transparency and mismanagement. One-fourth of respondents with education up to graduation and above were dissatisfied with these schemes due to mismanagement of these schemes (Table 5.6).

Table 5.6: Satisfaction with government health schemes across levels of education

Reasons	Illiterate		Primary		Middle		High School		Intermediate		Graduation and above		Total	
	No.	per cent	No.	per cent	No.	per cent	No.	per cent	No.	per cent	No.	per cent	No.	per cent
Good facility	-	-	-	-	13	12.50	4	2.10	-	-	31	21.80	48	7.10
Easy access	9	18.00	-	-	11	10.60	31	16.50	9	5.30	11	7.70	71	10.40
Low expense	-	-	-	-	18	17.30	58	30.90	10	5.80	20	14.10	106	15.60
Convenient	-	-	8	32.00	14	13.50	17	9.00	-	-	2	1.40	41	6.00
Timely help	-	-	-	-	-	-	-	-	-	-	19	13.40	19	2.80
Poor quality	-	-	-	-	-	-	25	13.30	10	5.80	-	-	35	5.10
Lack of transparency	8	16.00	-	-	24	23.10	5	2.70	88	51.50	23	16.20	148	21.80
Mismanagement	-	-	4	16.00	8	7.70	-	-	43	25.10	36	25.40	91	13.40
Low awareness	33	66.00	13	52.00	16	15.40	22	11.70	-	-	-	-	84	12.40
Class discrimination	-	-	-	-	-	-	-	-	11	6.40	-	-	11	1.60
High number of formalities	-	-	-	-	-	-	26	13.80	-	-	-	-	26	3.80
Total	50	100	25	100	104	100	188	100	171	100	142	100	680	100

Source: Field survey (Mau), 2015.

5.4.3 Religion and level of satisfaction

Hindus and Muslims in the study area perceived government health schemes differently. Table 5.7 reveals that the highest percentage of respondents, irrespective of their religious background, were dissatisfied with government health schemes due to lack of transparency in these schemes. A higher percentage of Hindu respondents were satisfied with these schemes because of the good facility and easy accessibility. The low level of awareness and high number of formalities generated dissatisfaction among Muslim respondents. Mismanagement and poor quality were the other reasons for dissatisfaction among respondents of both the religious groups.

Table 5.7: Satisfaction with government health schemes across religions

Reasons	Hindu		Muslim		Total	
	Num-ber	Per cent	Num-ber	Per cent	Num-ber	Per cent
Good facility	46	8.10	2	1.80	48	7.10
Easy access	59	10.40	12	10.80	71	10.40
Low expense	97	17.00	9	8.10	106	15.60
Convenient	33	5.80	8	7.20	41	6.00
Timely help	19	3.30	-	-	19	2.80
Poor quality	32	5.60	3	2.70	35	5.10
Lack of transparency	108	19.00	40	36.00	148	21.80
Mismanagement	85	14.90	6	5.40	91	13.40
Low awareness	64	11.20	20	18.00	84	12.40
Class discrimination	9	1.60	2	1.80	11	1.60
High number of formalities	17	3.00	9	8.10	26	3.80
Total	569	100.0 0	111	100.0 0	680	100.0 0

Source: Field survey (Mau), 2015.

5.4.4 Social groups and level of satisfaction

While considering social-group-wise satisfaction with government healthcare schemes, it has been found that a large number of respondents, irrespective of social group, were dissatisfied with these schemes due to lack of transparency. Less than 20 per cent of total respondents from the upper caste were satisfied with these schemes because of the low cost of these schemes. However, one-fourth of the respondents from this social

group were dissatisfied because of mismanagement in these schemes. Lack of transparency was the main reason behind dissatisfaction among OBC respondents. A higher percentage of scheduled castes respondents were satisfied with these schemes and highlighted the cause as a good facility, easy accessibility, low cost and convenience (Table 5.8).

Table 5.8: Satisfaction with government health schemes across social groups

Reasons	General		OBC		SC		ST		Total	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Good facility	22	10.80	14	4.10	5	4.60	7	26.90	48	7.10
Easy access	6	3.00	51	14.90	13	11.90	1	3.80	71	10.40
Low expense	37	18.20	53	15.50	14	12.80	2	7.70	106	15.60
Convenient	1	0.50	21	6.10	17	15.60	2	7.70	41	6.00
Timely help	13	6.40	4	1.20	2	1.80	-	-	19	2.80
Poor quality	13	6.40	12	3.50	8	7.30	2	7.70	35	5.10
Lack of Transparency	35	17.20	93	27.20	17	15.60	3	11.50	148	21.80
Mismanagement	52	25.60	33	9.60	6	5.50	-	-	91	13.40
Low awareness	22	10.80	39	11.40	17	15.60	6	23.10	84	12.40
Class discrimination	-	-	6	1.80	4	3.70	1	3.80	11	1.60
High number of formalities	2	1.00	16	4.70	6	5.50	2	7.70	26	3.80
Total	203	100.00	342	100.00	109	100.00	26	100.00	680	100.00

Source: Field survey (Mau), 2015.

Only about one-fourth of the ST respondents were satisfied with these schemes because they perceived these facilities as good.

5.4.5 Gender and level of satisfaction

Male and female respondents had different levels of satisfaction with these schemes. A very high percentage of male respondents were reported to be satisfied with these schemes (Table 5.9). A comparatively higher percentage of female respondents were dissatisfied with these schemes as compared to their male counterparts. Lack of transparency, mismanagement and low level of awareness were the main reasons behind dissatisfaction among female respondents.

Table 5.9: Satisfaction with government health schemes across sex

Reasons	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Good facility	34	6.40	14	9.70	48	7.10
Easy access	60	11.20	11	7.60	71	10.40
Low expense	106	19.80	-	-	106	15.60
Convenient	41	7.70	-	-	41	6.00
Timely help	19	3.60	-	-	19	2.80
Poor quality	10	1.90	25	17.20	35	5.10
Lack of transparency	148	27.70	-	-	148	21.80
Mismanagement	83	15.50	8	5.50	91	13.40
Low awareness	27	5.00	57	39.30	84	12.40
Class discrimination	0	0.00	11	7.60	11	1.60
High number of formalities	7	1.30	19	13.10	26	3.80
Total	535	100.00	145	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.4.6 Age group and level of satisfaction

A perusal of Table 5.10 reveals that a little less than half of the total respondents in the age group of less than 30 years old were dissatisfied with government health schemes due to lack of transparency.

The respondents, irrespective of their age, who were satisfied with these schemes perceived these schemes as good, easily accessible and less expensive. It is good to note that respondents in the older age group were more satisfied with these schemes as compared to their younger counterparts. None of the respondents above the age of 45 showed their dissatisfaction with these schemes. It appears that older respondents are being benefitted by these schemes, which is a better sign for healthcare initiatives taken by the government. Lack of transparency, mismanagement and low awareness were the main reasons behind dissatisfaction among respondents across the age categories who were not happy with these schemes.

Table 5.10: Satisfaction with government health schemes across age groups

Reasons	less than 30		30–35		35–40		40-45		above 45		Total	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	Nor	Per cent
Good facility	17	9.80	14	7.20	17	11.00	-	-	-	-	48	7.10
Easy access	9	5.20	9	4.60	6	3.90	22	18.60	25	64.10	71	10.40
Low expense	-	-	43	22.10	10	6.50	39	33.10	14	35.90	106	15.60
Convenient	6	3.40	27	13.80	8	5.20	-	-	-	-	41	6.00
Timely help	-	-	-	-	19	12.30	-	-	-	-	19	2.80
Poor quality	35	20.10	-	-	-	-	-	-	-	-	35	5.10
Lack of transparency	77	44.30	40	20.50	6	3.90	25	21.20	-	-	148	21.80
Mismanagement	-	-	21	10.80	60	39.00	10	8.50	-	-	91	13.40
Low awareness	19	10.90	22	11.30	21	13.60	22	18.60	-	-	84	12.40
Class discrimination	11	6.30	-	-	-	-	-	-	-	-	11	1.60
High number of formalities	-	-	19	9.70	7	4.50	-	-	-	-	26	3.80
Total	174	100	195	100	154	100	118	100	39	100	680	100

Source: Field survey (Mau), 2015.

5.4.7 Income and level of satisfaction

The economic status of each respondent largely affects his/her perception of satisfaction with government health schemes. Table 5.11 shows satisfaction of respondents across different income groups with these healthcare schemes. Lack of transparency and low awareness were the main reasons behind dissatisfaction among respondents belonging to the income group of less than Rs. 5,000. Easy accessibility and low expense were the reasons behind satisfaction among respondents in the same income group (26.70 per cent).

A large number of respondents (63.40 per cent) in the income group of 5,000–10,000 were dissatisfied with these schemes due to lack of transparency, mismanagement and lack of awareness about services. A large number of respondents in the income group of more than 10,000 were dissatisfied with these schemes due to lack of transparency and mismanagement of these schemes.

Table 5.11: Satisfaction with government health schemes across income groups

Reasons	less than 5,000		5,000–10,000		above 10,000		Total	
	No.	per cent	No.	per cent	No.	per cent	No.	per cent
Good facility	17	4.80	17	9.10	14	10.10	48	7.10
Easy access	60	16.90	-	-	11	8.00	71	10.40
Low expense	35	9.80	51	27.40	20	14.50	106	15.60
Convenient	39	11.00	-	-	2	1.40	41	6.00
Timely help	-	-	-	-	19	13.80	19	2.80
Poor quality	35	9.80	-	-	-	-	35	5.10
Lack of transparency	59	16.60	75	40.30	14	10.10	148	21.80
Mismanagement	12	3.40	21	11.30	58	42.00	91	13.40
Low awareness	62	17.40	22	11.80	-	-	84	12.40
Class discrimination	11	3.10	-	-	-	-	11	1.60
High number of formalities	26	7.30	-	-	-	-	26	3.80
Total	356	100	186	100	138	100	680	100

Source: Field survey (Mau), 2015.

5.4.8 Occupation and level of satisfaction

Table 5.12 shows the occupation-wise levels of satisfaction of the respondents. It is clear from the table that more than 60per cent of cultivators were dissatisfied with these schemes because of poor quality, lack of transparency, mismanagement and low level of awareness. It is very disheartening to note that none of the agricultural labourers who represent the weaker section of rural society were satisfied with these schemes due to low level of awareness. Industrial workers who generally reside in urban areas found government health schemes more convenient; therefore, they were satisfied with these schemes.

More than half the respondents engaged in services were reported to be dissatisfied with these schemes due to lack of transparency, mismanagement, class discrimination and high number of formalities. It is really very disappointing that the educated class of the society was more dissatisfied with these schemes.

Table 5.12: Satisfaction with government health schemes across occupations

Reasons	Farmers		Industrial workers		Services		Other wage earners		Total	
	Number	per cent	Number	per cent	Number	per cent	Number	per cent	Number	per cent
Good facility	-	-	-	-	20	7.60	28	12.91	48	7.10
Easy access	25	15.10	-	-	20	7.60	26	11.06	71	10.40
Low expense	35	21.10	-	-	41	15.60	30	12.77	106	15.60
Convenient	-	-	17	100.00	10	3.80	14	5.96	41	6.00
Timely help	-	-	-	-	-	-	19	8.08	19	2.80
Poor quality	35	21.10	-	-	-	-	-	-	35	5.10
Lack of transparency	30	18.10	-	-	101	38.50	17	7.23	148	21.80
Mismanagement	25	15.10	-	-	52	19.80	14	5.96	91	13.40
Low awareness	16	9.60	-	-	-	-	68	28.94	84	12.40
Class discrimination	-	-	-	-	11	4.20	-	-	11	1.60
High number of formalities	-	-	-	-	7	2.70	19	8.09	26	3.80
Total	166	100	17	100	262	100	235	100	680	100

Source: Field survey (Mau), 2015.

5.5 Change of health institutions

A change in healthcare facility by respondents during an illness indicates the efficiency of the healthcare delivery services and facilities at various health institutions and their acceptability by the users. Quality of healthcare services and facilities rendered by health institutions largely depend on the proficiency, attitude and behaviour of the medical and paramedical staff and availability and functioning of health apparatuses. Therefore, an analysis of changes of healthcare facilities by users during their illnesses across socio-economic and demographic categories is essential in order to analyse the efficiency of available health facilities in the district of Mau. The socio-economic and demographic variables discussed in this section include religion, social groups (caste), family structure, monthly income of households, age, education and occupation of the respondents. More than one-third of the total respondents reported a change of healthcare facilities due to lack of specialist doctors, and about 29 per cent of respondents reported the main reasons for their change of healthcare facilities as quick relief, good care and negligence. This clearly shows the bad conditions of attitude, quality and availability of health services and providers.

5.5.1 Place of residence and change of healthcare facility

Respondents in the study area changed their healthcare facilities before completion of treatment for the diseases for which they visited the health facilities (Table 5.13). Respondents in rural as well as urban areas changed their healthcare facilities, though the reasons for changing the healthcare facilities are somewhat different in rural and urban areas. A high proportion of respondents in rural areas changed their healthcare facilities as compared to their urban counterparts.

A high percentage of respondents, irrespective of their place of residence, changed their healthcare facilities to seek the help of a specialist doctor for a particular disease, while more than one-fourth of the urban respondents changed their healthcare facilities to get quick relief. Quick relief and good care were the other reasons which forced the respondents to change their healthcare facilities in both rural and urban areas.

Table 5.13: Reason for change of healthcare facility across places of residence

Reasons	Rural		Urban		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Time consuming	30	4.80	-	-	30	4.40
Poor facilities	25	4.00	-	-	25	3.70
High cost	15	2.40	2	3.30	17	2.50
Specialist doctor	217	35.00	12	20.00	229	33.70
Bureaucracy	17	2.70	-	-	17	2.50
Quick relief	66	10.60	16	26.70	82	12.10
Good care	56	9.00	12	20.00	68	10.00
Negligence	42	6.80	-	-	42	6.20
Irregularity of doctors	15	2.40	-	-	15	2.20
No change	137	22.10	18	30.00	155	22.80
Total	620	100.00	60	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.5.2 Religion and change of healthcare facility

Table 5.14: Reason for change of healthcare facility across religions

Reasons	Hindu		Muslim		Total	
	Number	per cent	Number	per cent	Number	per cent
Time consuming	28	4.90	2	1.80	30	4.40
Poor facilities	22	3.90	3	2.70	25	3.70
High cost	12	2.10	5	4.50	17	2.50
Specialist doctor	191	33.60	38	34.20	229	33.70
Bureaucracy	15	2.60	2	1.80	17	2.50
Quick relief	73	12.80	9	8.10	82	12.10
Good care	68	12.00	0	0.00	68	10.00
Negligence	24	4.20	18	16.20	42	6.20
Irregularity of doctors	15	2.60	-	-	15	2.20
No change	121	21.30	34	30.60	155	22.80
Total	569	100.00	111	100.00	680	100.00

Source: Field survey (Mau), 2015.

Table 5.14 shows that a higher percentage of respondents belonging to the Hindu religion changed healthcare facilities during the treatment process

more frequently as compared to respondents from the Muslim religious group. Most of the respondents, irrespective of their religious background, changed their healthcare facilities to get the service of a specialist doctor. Search for quick relief and good care forced the respondents from both the religious groups to change their healthcare facilities. An almost equal share of Hindu and Muslim respondents changed their healthcare facilities to save time and get good facilities. Irregularity of doctors and insensitivity of bureaucracy were the other factors which forced the respondents to change their healthcare facilities.

5.5.3 Gender and change of health facilities

Table 5.15 presents reasons for changing healthcare facility by gender. The largest share of both the male and female respondents changed their healthcare facilities to get the service of a specialist doctor. A high percentage of male respondents changed healthcare facilities due to different reasons as compared to their female counterparts. The reasons for change seem almost similar for both the groups as quick relief, good care and negligence were reported to be the reasons for the change in healthcare facilities.

Table 5.15: Reason for change of healthcare facility across sex

Reasons	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Time consuming	11	2.10	19	13.10	30	4.40
Poor facilities	-	-	25	17.20	25	3.70
High cost	6	1.10	11	7.60	17	2.50
Specialist doctor	193	36.10	36	24.80	229	33.70
Bureaucracy	17	3.20	-	-	17	2.50
Quick relief	82	15.30	-	-	82	12.10
Good care	54	10.10	14	9.70	68	10.00
Negligence	42	7.90	-	-	42	6.20
Irregularity of doctors	15	2.80	-	-	15	2.20
No change	115	21.50	40	27.60	155	22.80
Total	535	100.00	145	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.5.4 Age and change of healthcare institutions

Table 5.16 shows the reasons for changing healthcare facilities by age group. It is clear from the table that all the respondents age 45 and above changed their healthcare facilities due to different reasons while this figure is 80 per cent for respondents aged 40–45 years. Many of the older respondents reported suffering from complex diseases, and to get less-expensive and quick relief they changed their healthcare facilities in a higher proportion. It has been noticed that the majority of the respondents, irrespective of their age, changed their healthcare facilities to get the service of a specialist doctor. Negligence and irregularities in the presence of doctors were the other factors which resulted in frequent changes of healthcare facilities during treatment.

Table 5.17 presents the association between respondents' incomes and their reasons for changing their healthcare facilities. It is clear from table that more than 90 per cent of the total respondents in the income group of above 10,000 changed their healthcare facilities. Economically well-off respondents have better options for changing their healthcare facilities, and at the same time they are more aware of the specialties of healthcare facilities, which is the reason why more than half of the richest respondents changed their healthcare facilities. A little less than three-fourths of the respondents from both the income groups of less than Rs. 5,000 and Rs. 5,000–10,000 changed their healthcare facilities for different reasons. Respondents in the income group of less than Rs. 5,000 changed their healthcare facilities to save time, to avail themselves of good facilities, and to get quick relief and good care, while respondents in the income group Rs. 5,000–10,000 reported that they changed their healthcare facilities for quick relief, good care and to avoid negligence.

Table 5.16: Reason for change of healthcare facility across age groups

Reasons	Less than 30		30-35		35-40		40-45		Above 45		Total	
	No.	per cent	No.	per cent	No.	per cent	No.	per cent	No.	per cent	No.	per cent
Time consuming	-	-	19	9.70	-	-	11	9.30	-	-	30	4.40
Poor facilities	25	14.40	-	-	-	-	-	-	-	-	25	3.70
High cost	14	8.00	-	-	3	1.90	-	-	-	-	17	2.50
Specialist doctor	55	31.60	68	34.90	70	45.50	11	9.30	25	64.10	229	33.70
Bureaucracy	-	-	17	8.70	-	-	-	-	-	-	17	2.50
Quick relief	-	-	40	20.50	42	27.30	-	-	-	-	82	12.10
Good care	16	9.20	22	11.30	16	10.40	-	-	14	35.90	68	10.00
Negligence	17	9.80	-	-	-	-	25	21.20	-	-	42	6.20
Irregularity of doctors	15	8.60	-	-	-	-	-	-	-	-	15	2.20
No change	32	18.40	29	14.90	23	14.90	71	60.20	-	-	155	22.80
Total	174	100.00	195	100.00	154	100.00	118	100.00	39	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.5.5 Level of education and change of healthcare institutions

Table 5.18 shows the relationship between education and reason for changing healthcare facilities. It is clear from the table that illiterate respondents and respondents educated up to primary level changed their healthcare facilities in larger proportions as compared to respondents who have higher educational backgrounds because they reported unavailability of specialist doctors in their localities. Illiterate or less-educated people have comparatively poor knowledge about modern healthcare facilities, and that's why they did not change their healthcare facilities before completion of treatment; at the same, time these people belong to the poor economic class of the society with less economic assistance to get better medical help. High cost was the prime factor for illiterate respondents changing their healthcare facilities. Respondents who had education up to graduation or above changed their healthcare facilities for more specific reasons. Specialist doctors, quick relief and good care were the reasons which pulled the highly educated respondents to another healthcare facility.

5.5.6 Income and change of healthcare institution

Table 5.17: Reason for change of healthcare facility across income groups (Rs.)

Reasons	Less than 5,000		5,000–10,000		Above 10,000		Total	
	Number	per cent	Number	per cent	Number	per cent	Number	per cent
Time consuming	19	5.30	-	-	11	8.00	30	4.40
Poor facilities	25	7.00	-	-	-	-	25	3.70
High cost	17	4.80	-	-	-	-	17	2.50
Specialist doctor	137	38.50	18	9.70	74	53.60	229	33.70
Bureaucracy	17	4.80	-	-	-	-	17	2.50
Quick relief	31	8.70	38	20.40	13	9.40	82	12.10
Good care	16	4.50	24	12.90	28	20.30	68	10.00
Negligence	-	-	42	22.60	-	-	42	6.20
Irregularity of doctors	-	-	15	8.10	-	-	15	2.20
No change	94	26.40	49	26.30	12	8.70	155	22.80
Total	356	100.00	186	100.00	138	100.00	680	100.00

Source: Field survey (Mau), 2015.

Table 5.18: Reason for change of healthcare facility across levels of education

Reasons	Illiterate		Primary		Middle		High School		Intermediate		Graduation and above		Total	
	Number	per cent	Number	per cent	Number	per cent	Number	per cent	Number	per cent	Number	per cent	Number	per cent
Time consuming	-	-	-	-	-	-	19	10.10	-	-	11	7.70	30	4.40
Poor facilities	-	-	-	-	-	-	25	13.30	-	-	-	-	25	3.70
High cost	6	12.00	-	-	-	-	-	-	11	6.40	-	-	17	2.50
Specialist doctor	20	40.00	6	24.00	48	46.20	32	17.00	71	41.50	52	36.60	229	33.70
Bureaucracy	-	-	-	-	-	-	17	9.00	-	-	-	-	17	2.50
Quick relief	-	-	-	-	8	7.70	23	12.20	21	12.30	30	21.10	82	12.10
Good care	-	-	-	-	2	1.90	18	9.60	28	16.40	20	14.10	68	10.00
Negligence	-	-	-	-	-	-	-	-	25	14.60	17	12.00	42	6.20
Irregularity of doctors	-	-	-	-	-	-	-	-	15	8.80	-	-	15	2.20
No change	24	48.00	19	76.00	46	44.20	54	28.70	0	0.00	12	8.50	155	22.80
Total	50	100.00	25	100.00	104	100.00	188	100.00	171	100.00	142	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.5.7 Occupation and change of healthcare institutions

The reasons for changing healthcare facilities for the respondents across occupations have been tabulated in Table 5.19. It can be evinced from the table that the service of a specialist doctor remained the prime reason for changing healthcare facility among cultivators, while the need of quick relief and good care also strengthened their quests for a change of institutions. None of the agricultural labourers changed their healthcare facilities because they reported that "our poorness is ending our awareness". In urban areas, industrial workers changed their healthcare facilities due to their perception of hospital administration—they consider them bureaucratic. Respondents who were engaged in tertiary occupations changed their healthcare facilities for specialist doctors, quick relief, good care and to avoid negligence.

Table 5.19: Reason for change of healthcare facility across occupations

Reasons	Farmers		Industrial workers		Services		Other wage earners		Total	
	Number	per cent	Number	per cent	Number	per cent	Number	per cent	Number	per cent
Time consuming	-	-	-	-	-	-	30	12.77	30	4.40
Poor facilities	25	15.10	-	-	-	-	-	-	25	3.70
High cost	-	-	-	-	11	4.20	6	2.55	17	2.50
Specialist doctor	56	33.70	-	-	102	38.90	71	30.21	229	33.70
Bureaucracy	-	-	17	100.00	-	-	-	-	17	2.50
Quick relief	38	22.90	-	-	21	8.00	23	9.77	82	12.10
Good care	10	6.00	-	-	48	18.30	10	4.26	68	10.00
Negligence	-	-	-	-	42	16.00	-	-	42	6.20
Irregularity of doctors	15	9.00	-	-	-	-	-	-	15	2.20
No change	22	13.30	-	-	38	14.50	95	40.43	155	22.80
Total	166	100.00	17	100.00	262	100.00	235	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.5.8 Social group and change of healthcare institutions

Table 5.20 shows that more than 80 per cent of respondents belonging to upper caste changed their healthcare facilities during their treatments. The main reasons for this change were reported as the requirement of specialist doctors, quick relief and good care, and to avoid negligence. Upper-caste respondents had better social and economic positions with good educational backgrounds; that is why a large percentage of respondents from this category changed their healthcare facilities. SCs that comprise the weaker section of society changed their healthcare facilities for specialist doctors, quick relief and good care. STs who belong to most deprived section of the society changed their healthcare facilities to get good care at the healthcare facility.

Table 5.20: Reason for change of healthcare facility across social groups

Reasons	General		OBC		SC		ST		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Time consuming	4	2.00	21	6.10	4	3.70	1	3.80	30	4.40
Poor facilities	11	5.40	9	2.60	4	3.70	1	3.80	25	3.70
High cost	1	0.50	10	2.90	5	4.60	1	3.80	17	2.50
Specialist doctor	63	31.00	127	37.10	32	29.40	7	26.90	229	33.70
Bureaucracy	1	0.50	6	1.80	9	8.30	1	3.80	17	2.50
Quick relief	31	15.30	38	11.10	12	11.00	1	3.80	82	12.10
Good care	37	18.20	14	4.10	10	9.20	7	26.90	68	10.00
Negligence	14	6.90	26	7.60	2	1.80	-	-	42	6.20
Irregularity of doctors	5	2.50	10	2.90	-	-	-	-	15	2.20
No change	36	17.70	81	23.70	31	28.40	7	26.90	155	22.80
Total	203	100.00	342	100.00	109	100.00	26	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.6 Perception of healthcare facilities

The slogan "Health for All" by 2000 A.D. of the WHO is appealing and fairly cheering to developing countries such as India, where healthcare services have yet to cover the rural areas. Attaining the HFA goal not only depends on the formulation of the effective health policies but also on developing suitable administrative machinery and providing sufficient skilled manpower, medicine, physical infrastructure and technology. The perception of individuals about the healthcare facilities vary on the basis of past experience or information and overall knowledge, which strongly affects the future course of action. The public health sector is adversely affected by uneven demand and perceptions of poor quality. Countrywide, the underutilisation of available facilities is of significant concern. The unavailability of healthcare facilities, as well as poor infrastructure and doctors and nurses, are major hindrances to the utilisation of primary healthcare services. The situation is further compounded by lack of drugs, long travel and waiting times, and unhygienic conditions, overcrowding and corruption.

5.6.1 Place of residence and perception of healthcare facilities

In the area under study, peoples' perceptions of health facilities are influenced by their places of residence. A large proportion of respondents perceived lack of facilities in healthcare facilities. In rural areas, lack of facilities and corruption in accessing the existing healthcare facilities have been noticed as a significant basis for perceptions of healthcare facilities. In urban areas, one-third of the total respondents perceived overcrowding at healthcare facilities and reported an inadequate number of healthcare institutions.

Table 5.21 shows that more people in rural areas had negative perceptions of healthcare facilities as compared to their urban counterparts. Unhygienic environs and poor infrastructure were important features which determined the unfavourable perception people had about healthcare facilities at public institutions. A large proportion of illiterate rural respondents showed that they had not formed any perception (not having any perception) about healthcare facilities, while the share of this type of respondent is comparatively low in urban areas. This could be because rural folk might think that perception is a holy matter.

Table 5.21: Perception of health facilities across places of residence

Perceptions	Rural		Urban		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Poor quality	5	0.80	-	-	5	0.70
Unhygienic	48	7.70	6	10.00	54	7.90
Lack of facility	71	11.50	8	13.30	79	11.60
Poor infrastructure	42	6.80	-	-	42	6.20
Overcrowding	56	9.00	18	30.00	74	10.90
Lack of doctor	25	4.00	14	23.30	39	5.70
More time consuming	15	2.40	-	-	15	2.20
Corruption	64	10.30	-	-	64	9.40
Reasonably good facility	29	4.70	-	-	29	4.30
Less expensive	27	4.40	-	-	27	4.00
Can't say	238	38.40	14	23.30	252	37.10
Total	620	100.00	60	100.00	680	100.00

Source: Field survey (Mau), 2015.

High pressure of the population on healthcare facilities, irregularity in the presence of health personnel, negligence of administration and unplanned distribution of healthcare facilities are major reasons to form a bad perception of healthcare facilities in rural areas. Rural areas of the district are almost deprived of private healthcare institutions, which are thought to provide better facilities and care, though costly.

5.6.2 Religion and perception of healthcare facilities

Religion is an important cultural factor influencing people's perceptions of healthcare facilities. It is observed that religiosity and perception of healthcare facilities are significantly associated among Hindu and Muslim respondents in the study area. Table 5.22 shows that among Hindus the majority of the respondents perceived lack of facilities, overcrowding and corruption of different types at healthcare institutions, which formed the negative perceptions.

The majority of the Hindus preferred public-sector healthcare institutions while the majority of the Muslims went for low-standard private clinics—even sometimes for a quack. Use of medicine systems was also different among these two religious groups. The majority of Hindus went for allopathic medicine, while a large share of Muslim respondents went for Unani and homeopathic medicine, which are comparatively less expensive. More than half of the total Muslim respondents stated that they

did not have any perception of healthcare facilities. Illiteracy, poor awareness and some other religious factors were responsible for such ignorant perceptions among Muslim respondents. It is noted that the share of respondents who perceived unhygienic environs at healthcare facilities was almost double among Muslims as compared to their Hindu counterparts. This may be attributed to the fact that the majority of Muslims reside in urban slums where the high pressure of the population deteriorates the environment.

Table 5.22: Perception of health facilities across religions

Perceptions	Hindu		Muslim		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Poor quality	-	-	5	4.50	5	0.70
Unhygienic	38	6.70	16	14.40	54	7.90
Lack of facility	74	13.00	5	4.50	79	11.60
Poor infrastructure	40	7.00	2	1.80	42	6.20
Overcrowding	60	10.50	14	12.60	74	10.90
Lack of doctor	38	6.70	1	0.90	39	5.70
More time consuming	12	2.10	3	2.70	15	2.20
Corruption	63	11.10	1	0.90	64	9.40
Reasonably good facility	26	4.60	3	2.70	29	4.30
Less expensive	24	4.20	3	2.70	27	4.00
Can't say	194	34.10	58	52.30	252	37.10
Total	569	100.00	111	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.6.3 Social group and perception of healthcare facilities

Table 5.23 provides perceptions of healthcare facilities across social groups. One-fifth of the total respondents belonging to the upper caste perceived a lack of facilities at healthcare institutions. Poor infrastructure, corruption, overcrowding and lack of facilities influenced the perception of upper-caste and OBC respondents.

Though all the social groups showed negative perceptions, the scheduled castes—which possess comparatively lower socio-economic status and are mainly engaged as agricultural labourers - reported that they did not have any perception of healthcare facilities as they were still unfamiliar with the facilities at different types of healthcare institutions. This clearly reveals that the public health system has yet not reached the weaker sections of the society.

Table 5.23: Perception of health facilities across social groups

Perceptions	General		BC		SC		ST		Total	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Poor quality	1	0.50	4	1.20	-	-	-	-	5	0.70
Unhygienic	13	6.40	40	11.70	1	0.90	-	-	54	7.90
Lack of facility	41	20.20	35	10.20	3	2.80	-	-	79	11.60
Poor infrastructure	19	9.40	17	5.00	5	4.60	1	3.80	42	6.20
Overcrowding	16	7.90	36	10.50	14	12.80	8	30.80	74	10.90
Lack of doctor	16	7.90	11	3.20	12	11.00	-	-	39	5.70
More time consuming	1	0.50	10	2.90	3	2.80	1	3.80	15	2.20
Corruption	38	18.70	22	6.40	4	3.70	-	-	64	9.40
Reasonably good facility	3	1.50	19	5.60	6	5.50	1	3.80	29	4.30
Less expensive	3	1.50	19	5.60	4	3.70	1	3.80	27	4.00
Can't say	52	25.60	129	37.70	57	52.30	14	53.80	252	37.10
Total	203	100.00	342	100.00	109	100.00	26	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.6.4 Occupation and perception of healthcare facilities

While considering occupation-wise perception of respondents about healthcare facilities, it was found that a little less than one-fifth of the total cultivators perceived healthcare facilities as reasonably good. However, none of the agricultural labourers had any perception of healthcare facilities. It seems that the majority of agricultural labourers were SCs because they did not have any perception either. It seems that the poorest class of the society has no interaction with the public healthcare facilities.

Industrial workers who mainly reside in urban areas perceived overcrowding at healthcare facilities. The majority of the respondents from the service class perceived unhygienic conditions and lack of facilities at healthcare institutions (Table 5.24).

Table 5.24: Perception of health facilities across occupations

Perceptions	Farmers		Industrial workers		Services		Other wage earners		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Poor quality	-	-	-	-	5	1.90	-	-	5	0.70
Unhygienic	-	-	-	-	54	20.60	-	-	54	7.90
Lack of facility	27	16.30	-	-	41	15.60	11	4.68	79	11.60
Poor infrastruc-ture	-	-	-	-	22	8.40	20	8.51	42	6.20
Overcrowding	6	3.60	17	100	20	7.60	31	13.19	74	10.90
Lack of doctor	-	-	-	-	16	6.10	23	9.79	39	5.70
More time consuming	15	9.00	-	-	-	-	-	-	15	2.20
Corruption	21	12.70	-	-	14	5.30	29	12.34	64	9.40
Reasonably good facility	29	17.50	-	-	-	-			29	4.30
Less expensive	-	-	-	-	27	10.30	-	-	27	4.00
Can't say	68	41.00	-	-	63	24.00	121	51.49	252	37.10
Total	166	100	17	100	262	100	235	100	680	100

Source: Field survey (Mau), 2015.

Table 5.25: Perception of health facilities across income groups

Perceptions	Less than 5,000		5,000–10,000		Above 10,000		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Poor quality	5	1.40	-	-	-	-	5	0.70
Unhygienic	-	-	35	18.80	19	13.80	54	7.90
Lack of facility	12	3.40	15	8.10	52	37.70	79	11.60
Poor infrastructure	22	6.20	-	-	20	14.50	42	6.20
Overcrowding	60	16.90	-	-	14	10.10	74	10.90
Lack of doctor	8	2.20	17	9.10	14	10.10	39	5.70
More time consuming	15	4.20	-	-	-	-	15	2.20
Corruption	-	-	45	24.20	19	13.80	64	9.40
Reasonably good facility	29	8.10	-	-	-	-	29	4.30
Less expensive	-	-	27	14.50	-	-	27	4.00
Can't say	205	57.60	47	25.30	-	-	252	37.10
Total	356	100.00	186	100.00	138	100.00	680	100.00

Source: Field survey (Mau), 2015.

5.6.5 Income and perception of healthcare facilities

It is clear from Table 5.25 that more than half of the respondents from the poorest income group have no perception of healthcare facilities. A large proportion of low-income-group respondents perceived overcrowding at healthcare facilities. Corruption and unhygienic conditions had been perceived by the middle-income group while lack of facilities and overcrowding had been perceived by the high-income group (Table 5.25).

5.6.6 Education and perception of healthcare facilities

Table 5.26 depicts peoples' perceptions of healthcare facilities across different levels of education. It is clear from the table that a significant proportion of highly educated respondents perceived healthcare facilities as unhygienic (25.40 per cent), and others perceived a lack of facilities as well as doctors, poor infrastructure, corruption and overcrowding.

Respondents educated up to primary level (16.00 per cent) and high school (13.30 per cent) perceived favourably because they reported that modern medicine and facilities controlled the mortality rate. A significant proportion of high school and intermediate respondents perceived overcrowding and lack of facilities.

Table 5.26: Perception of health facilities across levels of education

Perception	Illiterate		Primary		Middle		High School		Intermediate		Graduation and above		Total	
	Number	per cent	Number	per cent	Number	per cent	Number	per cent	Number	per cent	Number	per cent	Number	per cent
Poor quality	-	-	-	-	-	-	5	2.70	-	-	-	-	5	0.70
Unhygienic	-	-	-	-	-	-	-	-	18	10.50	36	25.40	54	7.90
Lack of facility	-	-	-	-	12	11.50	-	-	37	21.60	30	21.10	79	11.60
Poor infrastructure	-	-	-	-	-	-	-	-	22	12.90	20	14.10	42	6.20
Overcrowding	-	-	-	-	14	13.50	46	24.50	-	-	14	9.90	74	10.90
Lack of doctor	-	-	-	-	8	7.70	-	-	8	4.70	23	16.20	39	5.70
More time consuming	-	-	-	-	15	14.40	-	-	-	-	-	-	15	2.20
Corruption	-	-	-	-	-	-	14	7.40	31	18.10	19	13.40	64	9.40
Reasonably good facility	-	-	4	16.00	-	-	25	13.30	-	-	-	-	29	4.30
Less expensive	-	-	-	-	-	-	27	14.40	-	-	-	-	27	4.00
Can't say	50	100.00	21	84.00	55	52.90	71	37.80	55	32.20	-	-	252	37.10
Total	50	100.00	25	100.00	104	100.00	188	100.00	171	100.00	142	100.00	680	100.00

Source: Field survey (Mau), 2015.

Table 5.27: Perception of health facilities across age groups

Perceptions	< 30		30–35		35–40		40–45		> 45		Total	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Poor quality	5	2.90	-	-	-	-	-	-	-	-	5	0.70
Unhygienic	17	9.80	24	12.30	13	8.40	-	-	-	-	54	7.90
Lack of facility	15	8.60	2	1.00	39	25.30	23	19.50	-	-	79	11.60
Poor infrastructure	22	12.60	20	10.30	-	-	-	-	-	-	42	6.20
Overcrowding	12	6.90	56	28.70	6	3.90	-	-	-	-	74	10.90
Lack of doctor	-	-	8	4.10	25	16.20	6	5.10	-	-	39	5.70
More time Consuming	15	8.60	-	-	-	-	-	-	-	-	15	2.20
Corruption	-	-	21	10.80	29	18.80	-	-	14	35.90	64	9.40
Reasonably good facility	-	-	-	-	-	-	4	3.40	25	64.10	29	4.30
Less expensive	-	-	-	-	-	-	27	22.90	-	-	27	4.00
Can't say	88	50.60	64	32.80	42	27.30	58	49.20	-	-	252	37.10
Total	174	100	195	100	154	100	118	100	39	100	680	100

Source: Field survey (Mau), 2015.

5.6.7 Age group and perception of healthcare facilities

Table 5.27 shows peoples' perceptions of healthcare facilities across different age groups. It is clear from the table that a significant proportion of respondents below the age of 30 years perceived healthcare facilities as more time consuming with poor infrastructure. Respondents in the age group 30–35 perceived overcrowding and unhygienic conditions at healthcare facilities. It is noted that more than 60 per cent of respondent in the age group above 45 years had good perceptions of healthcare facilities as they perceived the facilities as reasonably good, while more than 30 per cent of total respondents in the aforesaid age group perceived a prevalence of corruption at healthcare facilities (Table 5.27). Aged population of the study area, who lived in rural areas had low education and represented the occupation of cultivator, perceived reasonably good health facility. All the illiterate and agricultural labourers did not have any perception of healthcare facilities. Respondents below age 40 years and with education at intermediate and above belonging to the service category across rural and urban areas perceived unhygienic conditions in healthcare facilities.

5.7 Conclusions

In the present study, the perceptions of people about the healthcare facilities have been analysed. The study explains the awareness of respondents about the NRHM, satisfaction with treatment processes, problems faced during hospitalisation and overall perception of respondents about healthcare services. It is noted that, out of a total 680 respondents, only about 14 per cent of the respondents were satisfied by medicines provided by hospitals and 27 per cent said that they were not satisfied, while 59 per cent of the respondents did not answer about the satisfaction with medicine provided by healthcare providers in hospitals. Among 145 female respondents, no one was found to be satisfied by the medicine. Out of the total female respondents, 20.00 per cent did not respond.

- In rural and urban areas, the situations are different. Only 9.70 per cent of respondents were satisfied in rural areas while 39.30 per cent were satisfied in urban areas of the district.
- The analysis found that 13.30 per cent of males and 17.20 per cent of females pointed out the poor quality of care during hospitalisation. It is depicted that only 1.10 per cent of the males accepted that the infrastructure of the health facilities were poor.

- Out of a total 620 rural respondents, only 6.80 per cent were satisfied with the quality of government health services while 10.5 per cent of respondents said that they were satisfied because they were easily accessible. Only 3.10 per cent said that government health schemes are good for providing timely help. Many of them accepted lack of transparency in government health schemes. On the other hand, 10.00 per cent of the respondents of urban areas accepted the facilities as good with easy-to-access schemes while 20.00 per cent reported mismanagement.

- It is considered that out of a total 620 rural respondents, 4.80 per cent of respondents changed their hospital because of time-consuming government health providers, while 4.00 per cent changed from poor facilities, but only 2.40 per cent of the patients changed their first treatment hospital because they could not bear the high cost of medical care, while 10.60 per cent wanted quick relief from illness. Among the total respondents, 2.40 per cent of the respondents changed their hospital due to the irregularity of doctors and the majority (35.00 per cent) of respondents changed their hospitals for better and immediate relief with treatment by specialist doctors. Similarly, in urban areas, out of a total 60 respondents, about 27 per cent changed hospitals for want of quick relief. For this reason, they suddenly changed their hospitals and doctors. It was found that, out of the total, 30 per cent of respondents and 22.10 per cent of respondents did not change their institutions for any reason in urban and rural areas, respectively.

SUMMARY AND CONCLUSION

Health acquires the most prominent place in one's life and is a measure of an individual's well-being. According to the WHO, "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO 1948), and it is vital for the ethical, artistic, material and spiritual development of man. Health is not only a basic component to a happy life for an individual but also necessary for all productive activities in a society. The entire development cycle of a person depends upon his intellectual calibre, curiosity and constructive thinking, and all these are dependent upon health condition. After independence, the First Five Year Plan considered health as a state of positive well-being in which harmonious development of mental and physical capacities of individuals leads to the enjoyment of a rich and full life. The status of health of an individual and a group are determined by a range of factors, including nutrition level and lifestyle as well as availability and accessibility of healthcare services. In this regard, the Eighth Five Year Plan opened up new avenues for accessibility and availability of healthcare infrastructure with pronouncement of goals of "Health for All" and "Health for Underprivileged" by 2000 A.D, though after the passage of more than a decade beyond the set timeframe accessibility remains limited. The underdeveloped nature of the healthcare infrastructure is quite evident from the fact that 75.0 per cent of the population is deprived of modern healthcare facilities and, consequently, they visit quacks or traditional healers for treatment.

Institutions' healthcare delivery systems are based on a hierarchy, i.e., from PHC, to CHC, and finally to multi-speciality hospitals for specific needs. In a developing country like India, one of the serious lapses in the planning process has been the lack of understanding of the spatial or the regional structure of the healthcare systems, as they tend to organise themselves in space both in terms of accessibility and need due to varying disease ecologies. There are at present 1,46,026 SHCs (sub-health centres or SCs), 23,236 PHCs and 3346 CHCs in India. To meet the (2001) population norm, an additional 19,269 SHCs, 4,337 PHCs and 3,206 CHCs were needed, while 60,762 SHCs, 2,949 PHCs and 205 CHCs are required. The concentration of these in favourable locations poses further challenges and, consequently, millions of rural people—-including mothers

and children—remain unattended to across villages of poor states of India, including Uttar Pradesh. The existing institutions in the majority of cases lack even basic infrastructures, including toilets, drinking water facilities and electricity. Furthemore, the requirement of equipment, medicines and other resources for proper management is a prerequisite for a healthy environment in any society. According to the DLHS and facility survey coordinated by IPS in 2003, if adequacy is defined as having at least 60 per cent of the required inputs, only 76 per cent of the FRUs and 63 per cent of the CHCs have adequate infrastructure, 61 per cent of the FRUs and 46 per cent of the CHCs have adequate equipment, 32 per cent of the FRUs and 24 per cent of the CHCs have adequate supply, and 37 per cent of the FRUs and 14 per cent of the CHCs have adequate staff.

The welfare state proclaims that it has the responsibility for ensuring good health for all its citizens. In this context, provision of basic healthcare services to the people primarily rests with the respective governments. The Department of Health and Family Welfare is striving hard for the attainment of health for people through the wide network of the government healthcare delivery system by catering to the needs of the people, in rural as well as urban areas. Lack of manpower, staff absenteeism, lack of specialised services, inadequate fund allocation, dilapidated buildings, obsolete machinery and poor amenities, along with rampant corruption, have made these government healthcare institutions less attractive. Consequently, almost a kind of paradigm shift is noticeable in the medical practice—due to accessibility and affordability—of the people from government to NGOs and other hospitals for better health access. The National Health Policy 2001 shows a major policy shift from the National Health Policy 1983 on the issue of private-sector and NGOs' participation in health services, creating larger role for the private and the voluntary sectors in providing healthcare services.

The present study summarised the history of the creation of healthcare facilities and its importance in health geography and its emergence in India, and it also analysed the inter-linkages between medical services and geographical conditions in the study of distribution and utilisation of healthcare facilities. On the basis of the study, the following conclusions have been drawn:

- The district Mau is situated in the Ganga-Ghaghara plain (Doab) of eastern Uttar Pradesh, which covers an area of 1727.96 sq km and is one of the smallest districts of Uttar Pradesh. About 75 per cent of its population depends on agriculture for their livelihood. The

population has increased by 95.79 per cent over the last three decades (1981–2001), as compared to an increase of 80.03 per cent for Uttar Pradesh and 77.10 per cent for the whole country over the same period. According to Census 2011, the population growth rate of Mau district is lower than that of the Uttar Pradesh state, though still higher in comparison to the all-India growth rate.

- It is noted that the urban population has increased by 47.7 per cent from 1991 to 2001. During the same decade, the rural population has increased by 24.48 per cent. The growth rate of the urban population is higher in urban than rural areas. The high decadal (1991–2001) growth rate of the urban population is mainly because of the formation of Mau district in 1988 and declaration of Mau town as its district headquarters. Many people have migrated for better urban facilities to newly declared urban areas. Among the nine development blocks, the Pardaha block has the highest population due to its nearness to the Mau city. It houses the hand loom industry, attracting a huge labour force.

- It is depicted that the population density of the district increased from 1991, with 812 persons per sqkm, to 2001, with 1,080 persons per sq km. It is seen in the development blocks that low (below 800 persons per sq km) population density was recorded in Fatehpur Madaun while high (more than 1,000 persons per sq km) population density existed in Ghosi, followed by Kopaganj, Pardaha and Muhammadabad Gohana. Moderate (800–1,000 persons per sq km) population density was recorded in the Doharighat, Badraon, Ratanpura and Ranipur development blocks in descending order.

- An increasing trend in the literacy of the study area can be seen. According to the 1991 Census, the literacy rate was only 43.80 per cent, which increased to 19.64 per cent from 1991–2001 with a total of 62.16 per cent as per Census 2001. It is pertinent to mention here that the literacy rate of the study area was high in comparison to Uttar Pradesh but remained below the national average in both census years 1991 and 2001. Female literacy in the district has shown a good improvement in comparison to the state average in 2001.

- Rural literacy is much lower than urban literacy. The rural literacy of the district was recorded as 40.26 per cent and 59.99 per cent, respectively, in 1991 and 2001, while urban literacy was 61.29 per cent and 71.05 per cent, respectively. During 1991–2001, urban female literacy in the district increased from 49.88 per cent to 61.94

per cent. Inadequate education facilities, the low social and economic functional value of literacy in the countryside and the tendency of educated males to migrate to urban areas in search of employment are the main reasons responsible for lower literacy rates in rural areas.

- According to Census 1991, among the total population there were 27.83 per cent main workers, 5.39 per cent marginal workers and 66.78 per cent non-workers. The percentage of main workers decreased to 21.41 per cent in 2001 while the percentage of marginal workers increased to 10.92 per cent in 2001. The share of non-workers increased to 67.67 per cent in 2001.

- The occupational structure of the study area clearly reflects the underdeveloped nature of the economy of Mau district as more than 66.45 per cent of the total workers in the study area are engaged in the primary sector, i.e., in agriculture and allied activities. On the other hand, the share of the total workers engaged in non-agriculture activities is only 33.55 per cent.

- The study reveals that healthcare services are disproportionately located in favour of urban centres across the study area, similar to the national scenario. The study reflects that the hospital-bed ratio is very poor (25) in Mau in comparison with Uttar Pradesh (118) and India (92). Interestingly, the rural hospital-bed ratio in Mau (21) is comparable with the national (22) and state-level (30) scenarios.

- The disheartening reality about the availability of healthcare facilities is that there was a decreasing trend (1991–2001) in almost all components of healthcare (allopath): number of hospitals, number of CHCs/PHCs, and number of beds and paramedical and other support staff. However, an increase was recorded during 2001–2011, which is mainly due to the introduction of the NRHM programme.

- The available healthcare facilities are still far below the normative level suggested in the reports of different committees since 1946. There is a marked spatial variation in the distribution of healthcare facilities across different blocks with the fact that three blocks do not have any CHC, namely Doharighat, Pardaha and Ranipur.

- The block-level accessibility of healthcare centres has been analysed by distance (up to 10 km). According to the District Level Household and Facility Survey (DLHS-3), 77.8 per cent of villages fall within 10 km from PHCs that were distributed in Uttar Pradesh (IIPS 2008). In Mau district, 36.71per cent of the villages have a

PHC within less than 5 km distance and 42.53 per cent of villages have a PHC within 5–10 km. but around one-fifth of the total villages have poor access to a PHC, lying more than 10 km from them.

- The study area has one district hospital, one tuberculosis hospital, seven CHCs and forty-four PHCs, including new PHCs and 245 SCs. Besides this, there are twenty-nine Ayurvedic, twenty-three homeopathic and six Unani hospitals/dispensaries for providing the healthcare services to the people.

- The average institution density of the district in 1991 was 3.15 institutions per 100 sqkm while the rural and urban institution densities were 2.03 and 35.63 institutions per 100 sq km, respectively. Low institution density (below 2 institutions per 100 sq km) was found in Ghosi (1.31), while only the Ratanpura (3.08) development block recorded high institution density (more than 3 institutions per 100 sq km). The Badraon (2.17), Doharighat (2.49), Kopaganj (2.02) and Ranipur (2.16) development blocks recorded moderate (2–3 institutions per 100 sq km) institutional density. But in 2001, the average density of the district increased to 3.26 institutions per 100 sq km while the rural institution density also increased to 2.37, but urban institution density decreased to 23.85 institutions per 100 sq km due to extension of the urban area during 1991–2001.

- The gap between the existing facilities and required facilities reflects the existing nature of development. When the population increases, the healthcare facilities stay the same. This trend portrays a negative pattern of development and growth which affects the health and healthcare facilities. But in the study area, the scenario is totally different in the present time as compared to 1991. The situation has worsened over the years as in 2001 and 2011 the gaps in the number of PHCs and SCs have increased. As a result, private hospitals are attracting more patients owing to availability of more facilities.

- The study points towards a gradual increase in the gap of SCs in all the development blocks. This is alarming in the context that in all likelihood the gap would further grow in the coming years owing to continuous growth of the population and stagnant growth in the number of SCs. The gap in the number of PHCs is not increasing, but even a gap of 2 PHCs paints a gloomy picture as it is the very first healthcare centre the people attend, and shortage of such

centres will further put people under distress in accessing healthcare.

- People living in urban areas utilise government healthcare facilities more in comparison to their rural counterparts.

- Utilisation of available healthcare facilities at the district hospital is poor across the district for two main reasons: first, its location in the largest urban centre of the district where a sufficient number of good private hospitals provide perceptibly better health services; and second, it is found to be suitable for critical diseases, not as a place for first visit in case of illness.

- More females compared to males have reported that they use CHCs for first visits due to two main reasons: many programmes are run particularly for women; and women are only taken to hospitals in serious cases.

- The respondents whose monthly family incomes are less than Rs. 5,000 have the highest (36.50 per cent) dependency on CHCs while the proportions of respondents who visited private hospitals in case of illness were found highest in the income categories of above Rs. 5,000.

- Distribution of free medicines and low cost of medication, i.e., doctors' fees, diagnostic charges, etc., at CHCs are the major factors for attracting low-income and poor people, while PHCs - because of being ill-equipped and unmaintained - are not favourable among the users. Further, at PHCs availability of doctors and/or paramedical staff remain uncertain, and in both the cases treatment at best becomes partial.

- The percentage of total deliveries attended by trained staff at home increases with rising household income. On the other hand, not a single woman belonging to the high-income group (more than Rs. 10,000) delivered at home; so, by implication, it can be argued that if safe institutional delivery is to be ensured we need to improve the economic condition of families. It is found that household income has a positive correlation with institutional deliveries and deliveries performed by trained personnel.

- Uneducated persons are less aware about the facilities. The provision of healthcare facilities increases with each increase in the education level of the society.

- The very poor and poor sections of society living in huts and kutcha houses, respectively, have been covered less by health workers than the middle and economically sound sections of society that have pucca and kutcha-pucca houses. A total of 92.90

per cent of huts and 97.30 per cent of kutcha houses have been covered under the pulse polio vaccine compared to the 100-per-cent coverage of pucca and kutcha-pucca houses. It could be that when health workers visited the former might have been at work and children also might have been with their mothers at these areas. Whatever is the cause, the fact remains that the most needy did not get the most desirable care and steps have to be taken to ensure visits to the poorest of the poor at the village level.

- The percentage of households covered under the measles vaccine varies from a minimum of 57.90 per cent in the low-income group to 97.10 per cent in the high-income group. Health workers had provided the DPT vaccine and IFA tablets to 53.40 per cent of households in the low-income group, which increased to 82.30 per cent of households in the moderate-income group and further to 93.50 per cent of households in the high-income group.

- It is noted that, out of 680 total respondents, only about 14 per cent were satisfied by medicines provided by hospitals and 27 per cent said that they were not satisfied, while 59 per cent of the respondents did not answer about their satisfaction with medicine provided by healthcare providers in hospitals. Among 145 female respondents, no one was found to be satisfied by the medicine. Out of the total, 20 per cent had no opinion regarding level of satisfaction.

- Private institutions have increased tremendously over the years but can be accessed only by those who have the capability to pay.

- The analysis shows that level of satisfaction varies with change in place of residence; only 9.70 per cent of respondents were satisfied in rural areas, while 39.30 per cent were satisfied in urban areas of the district. About 13 per cent of males and 17.20 per cent of females pointed out the poor quality of care during hospitalisation. It is depicted that only 1.10 per cent of the males accepted that the infrastructure of the health facilities were poor.

- Out of the total 620 respondents, only 6.80 per cent were satisfied with government health services and 10.5 per cent of respondents said that they were satisfied because they were easily accessible, while 3.10 per cent said that government health schemes are timely help. Many of them pointed out a lack of transparency in government health schemes. Similarly, 10.00 per cent of the respondents of urban areas said they had good and easy access to schemes while 20.00 per cent found them to be mismanaged.

- Out of a total 620 rural respondents, 4.80 per cent had changed their hospital because of the excess time consumed in getting treatment at government health services, and 4.00 per cent changed due to poor facilities, but only 2.40 per cent of the patients changed their first treatment hospital because they were not able to pay the high cost at private healthcare centres, while 10.60 per cent wanted quick relief from illness. Among the total respondents, 2.40 per cent had changed their hospital due to the irregularity of doctors and the majority (35.00 per cent) of respondents had changed their hospitals for better and quick relief with treatment by specialist doctors. Similarly, in urban areas, out of a total 60 respondents, about 27 per cent wanted quick relief. For this reason, they suddenly changed their hospitals and doctors. It is noticed that out of the total, 30 and 22.10 per cent of respondents had not changed their institution for any reason in urban and rural areas, respectively.

The spatial dimension of healthcare facilities and infrastructure shows a varying pattern across the country. It is pertinent to mention here that Uttar Pradesh has a population six times greater than Kerala but just one-third the total numbers of hospitals, which reveals the level of disparity in terms of availability of healthcare. Besides this, the uneven distribution of healthcare facilities within the state is another significant element which needs to be addressed. This unevenness has further aggravated the problems of healthcare accessibility. Another aspect of healthcare infrastructure is the persistent wide rural-urban gaps in terms of availability of healthcare institutions, doctors and beds across villages of the state. In the process of balanced growth and better quality for human resource development, our policy makers should pay more attention to the issues of human health.

On the basis of the block-level analysis of institutional facilities and considering people's responses to available facilities, it is worthwhile to recommend strengthening and widening of healthcare facilities in the district. Specifically, the following recommendations can be made:

- Government institutions are being less preferred by the people due to a number of reasons, and these issues have to be addressed if the institutional healthcare system desires to serve the people who need these facilities.
- There is a need to improve the availability of healthcare institutions in terms of numbers so that the normative standards are met.

Further, widening inter-block gaps in healthcare infrastructure need to be reduced.

- The study shows that the NRHM has brought faith among the people, so it is important to have outreach programmes to let people know about the available facilities through ANMs, ASHAs and other extension programmes, including print and electronic media.
- It was noted during the study that ASHAs/ANMs are not fully capable of answering some of the health needs; hence, proper training of ANMs and ASHAs—and, if possible, recruitment of skilled personnel as ANMs/ASHAs—will help reduce this problem.
- The immunisation programme under the NRHM has reached the targeted population; so the schemes, if started, may take some more time to show results but would yield desired results in long-term. Thus, such programmes should be continued.
- The study shows that income is the factor for institutional delivery; so, if we want to ensure universal coverage of the population for safe institutional delivery, the state will have to intervene beyond the provision of healthcare services.

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