PART – I

INTERNSHIP REPORT

INTERNSHIP REPORT AT MINISTRY OF HEALTH AND FAMILY WELFARE

1.1 INTRODUCTION TO MINISTRY OF HEALTH AND FAMILY WELFARE :

The **Ministry of Health and Family Welfare** is the Indian government ministry charged with health policy in India. It is also responsible for all government programs relating to family planning in India.

The Minister of Health and Family Welfare is situated at Nirman Bhavan at Central Secretariat that holds a cabinet rank as a member of the Council of Ministers. The current minister is **Shri. Ghulam Nabi Azad**, who is assisted by a Minister of States for Health and Family Welfare, **Shri. Dinesh Trivedi** & **Shri. S. Gandhiselvan.**

The ministry is composed of three departments:

- Department of Health,
- Department of Family Welfare, and
- Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH).

DEPARTMENT OF HEALTH

The **Department of Health** deals with health care, including awareness campaigns, immunization campaigns, preventive medicine, and public health. Bodies under the administrative control of this department are:

- National AIDS Control Organization (NACO)
- 13 National Health Programmes
    - National AIDS Control Programme (AIDS)
    - National Cancer Control Programme (cancer)
    - National Filaria Control Programme (filariasis)
    - National Iodine Deficiency Disorders Control Programme (iodine deficiency)
    - National Leprosy Eradication Programme (leprosy)
    - National Mental Health Programme (mental health)

    - National Programme for Control of Blindness (blindness)
    - National Programme for Prevention and Control of Deafness (deafness)
    - National Tobacco Control Programme (tobacco control)
    - National Vector Borne Disease Control Programme (NVBDCP) (vector-born disease)
    - Pilot Programme on Prevention and Control of Diabetes, CVD and Stroke (diabetes, cardiovascular disease, stroke)
    - Revised National TB Control Programme (tuberculosis)
    - Universal Immunization Programme
- Medical Council of India
- Dental Council of India
- All India Institute of Speech and Hearing (AIISH), Mysore
- All India Institute of Physical Medicine and Rehabilitation (AIIPMR), Mumbai
- Hospital Services Consultancy Corporation Limited (HSCC)

DEPARTMENT OF FAMILY WELFARE

The **Department of Family Welfare** (**FW**) is responsible for aspects relating to family welfare, especially in reproductive health, maternal health, pediatrics, information, education and communications; cooperation with NGOs and international aid groups; and rural health services. The Department of Family Welfare is responsible for:

- 18 Population Research Centres (PRCs) at six universities and six other institutions across 17 states
- National Institute of Health and Family Welfare (NIHFW), South Delhi
- International Institute for Population Sciences (IIPS), Mumbai
- Central Drug Research Institute (CDRI), Lucknow
- Indian Council of Medical Research (ICMR), New Delhi - founded in 1991, it is one of the oldest medical research bodies in the world

DEPARTMENT OF AYUSH

The **Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy** (**AYUSH**) deals with ayurveda (Indian traditional medicine), and other yoga, naturopathy, unani, siddha, and homoeopathy, and other alternative medicine systems.

The department was established in March 1995 as the **Department of Indian Systems of Medicines and Homoeopathy** (**ISM&H**).The department is charged with upholding educational standards in the

Indian Systems of Medicines and Homoeopathy colleges, strengthening research, promoting the cultivation of medicinal plants used, and working on Pharmacopoeia standards. Bodies under the control of the Department of AYUSH are:

- Various research councils
    - Central Council for Research in Ayurveda and Siddha (CCRAS)
    - Central Council for Research in Unani Medicine (CCRUM)
    - Central Council for Research in Homoeopathy (CCRH)
    - Central Council for Research in Yoga and Naturopathy (CCRYN)
- Several educational institutions:
    - National Institute of Ayurveda, Jaipur (NIA)
    - National Institute of Siddha, Chennai (NIS)
    - National Institute of Homoeopathy, Kolkata (NIH)
    - National Institute of Naturopathy, Pune (NIN)
    - National Institute of Unani Medicine, Bangalore (NIUM)
    - Institute of Post Graduate Teaching and Research in Ayurveda, Jamnagar,Gujarat (IPGTR)
    - Rashtriya Ayurveda Vidyapeeth, New Delhi (RAV)
    - Morarji Desai National Institute of Yoga, New Delhi (MDNIY)
- Indian Medicine Pharmaceutical Corporation Limited (IMPCL), Mohan, Uttaranchal (a public sector undertaking)
- Professional councils
    - Central Council of Homoeopathy (CCH)
    - Central Council of Indian Medicine (CCIM)

NATIONAL RURAL HEALTH MISSION :

Recognizing the importance of Health in the process of economic and social development and improving the quality of life of our citizens, the Government of India has resolved to launch the National Rural Health Mission in 2005 to carry out necessary architectural correction in the basic health care delivery system. The Mission adopts a synergistic approach by relating health to determinants of good health viz. segments of nutrition, sanitation, hygiene and safe drinking water. It also aims at mainstreaming the Indian systems of

medicine to facilitate health care. The Plan of Action includes increasing public expenditure on health, reducing regional imbalance in health infrastructure, pooling resources, integration of organizational structures, optimization of health manpower, decentralization and district management of health programmes, community participation and ownership of assets, induction of management and financial personnel into district health system, and operationalizing community health centers into functional hospitals
meeting Indian Public Health Standards in each Block of the Country.
The Goal of the Mission is to improve the availability of and access to quality health care by people, especially for those residing in rural areas, the poor, women and children.

VISION OF NRHM :

The National Rural Health Mission (2005-12) seeks to provide effective healthcare to rural population throughout the country with special focus on 18 states, which have weak public health indicators and/or weak infrastructure.

• These 18 States are Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Jammu & Kashmir, Manipur, Mizoram, Meghalaya, Madhya Pradesh, Nagaland, Orissa, Rajasthan, Sikkim, Tripura, Uttaranchal and Uttar Pradesh.

• The Mission is an articulation of the commitment of the Government to raise public spending on Health from 0.9% of GDP to 2-3% of GDP.

• It aims to undertake architectural correction of the health system to enable it to effectively handle increased allocations as promised under the National Common Minimum Programme and promote policies that strengthen public health management and service delivery in the country.

• It has as its key components provision of a female health activist in each village; a village health plan prepared through a local team headed by the Health & Sanitation Committee of the Panchayat; strengthening of the rural hospital for effective curative care and made measurable and accountable to the community through Indian Public Health Standards (IPHS); and integration of vertical Health & Family Welfare Programmes and Funds for optimal utilization of funds and infrastructure and strengthening delivery of primary healthcare.

• It seeks to revitalize local health traditions and mainstream AYUSH into the public health system.

• It aims at effective integration of health concerns with determinants of health like sanitation & hygiene, nutrition, and safe drinking water through a District Plan for Health.
• It seeks decentralization of programmes for district management of health.
• It seeks to address the inter-State and inter-district disparities, especially among the 18 high focus States, including unmet needs for public health infrastructure.
• It shall define time-bound goals and report publicly on their progress.
• It seeks to improve access of rural people, especially poor women and children, to equitable, affordable, accountable and effective primary healthcare.

GOALS OF NRHM :

- Reduction in Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR)
- Universal access to public health services such as Women's health, child health, water, sanitation & hygiene, immunization, and Nutrition.
- Prevention and control of communicable and non-communicable diseases, including locally endemic diseases
- Access to integrated comprehensive primary healthcare
- Population stabilization, gender and demographic balance.
- Revitalize local health traditions and mainstream AYUSH
- Promotion of healthy life.

STRATEGIES

(a) Core Strategies:

• Train and enhance capacity of Panchayati Raj Institutions (PRIs) to own, control and manage public health services.
• Promote access to improved healthcare at household level through the female health activist (ASHA).
• Health Plan for each village through Village Health Committee of the Panchayat.
• Strengthening sub-centre through an untied fund to enable local planning and action and more Multi Purpose Workers (MPWs).

• Strengthening existing PHCs and CHCs, and provision of 30-50 bedded CHC per lakh population for improved curative care to a normative standard (Indian Public Health Standards defining personnel, equipment and management standards).

• Preparation and Implementation of an inter-sectoral District Health Plan prepared by the District Health Mission, including drinking water, sanitation & hygiene and nutrition.

• Integrating vertical Health and Family Welfare programmes at National, State, Block, and District levels.

• Technical Support to National, State and District Health Missions, for Public Health Management.

• Strengthening capacities for data collection, assessment and review for evidence based planning, monitoring and supervision.

• Formulation of transparent policies for deployment and career development of Human Resources for health.

• Developing capacities for preventive health care at all levels for promoting healthy life styles, reduction in consumption of tobacco and alcohol etc.

• Promoting non-profit sector particularly in under served areas.

(b) Supplementary Strategies:

• Regulation of Private Sector including the informal rural practitioners to ensure availability of quality service to citizens at reasonable cost.

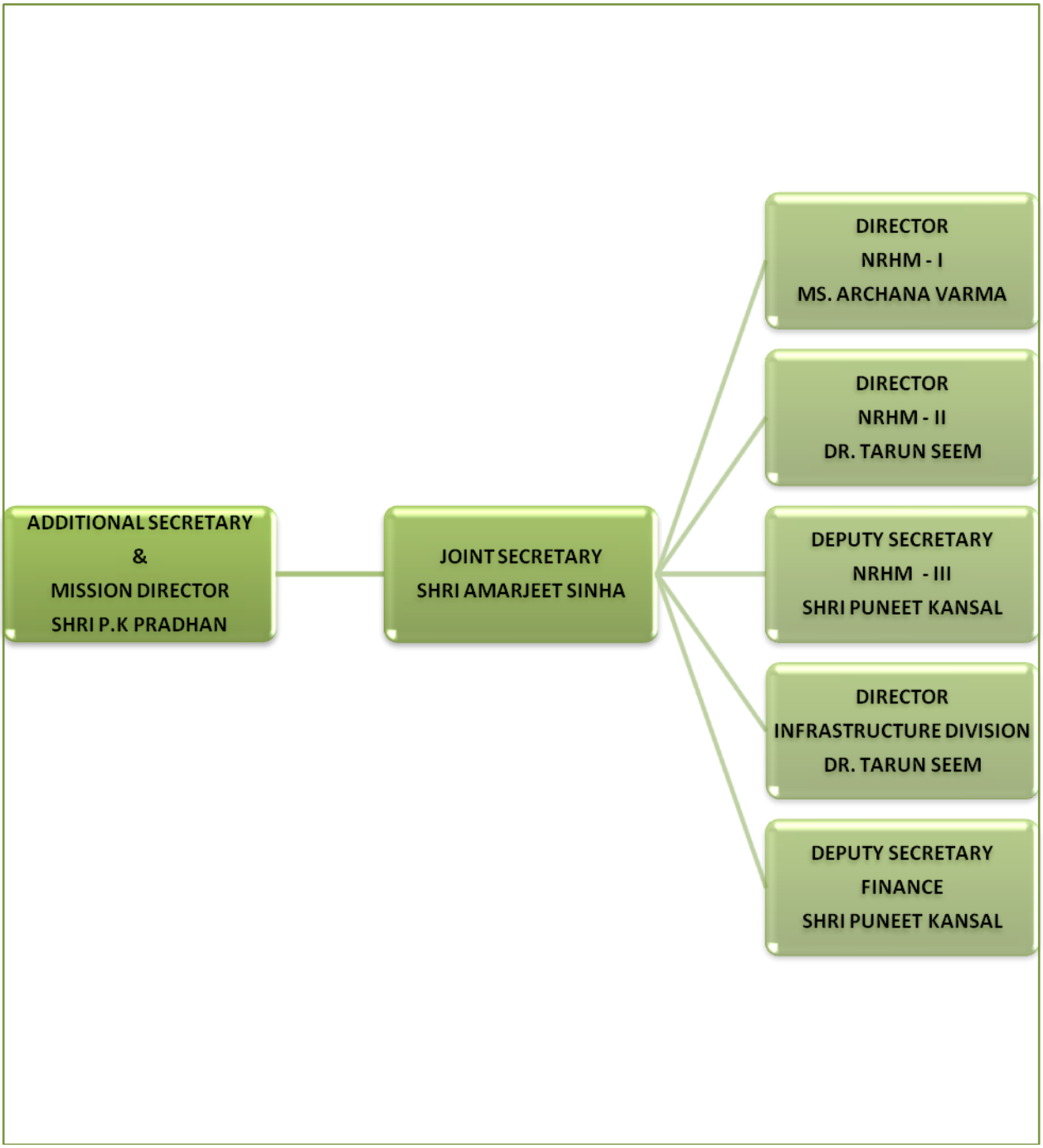
• Promotion of Public Private Partnerships for achieving public health goals.

• Mainstreaming AYUSH – revitalizing local health traditions.

• Reorienting medical education to support rural health issues including regulation of Medical care and Medical Ethics.

• Effective and viable risk pooling and social health insurance to provide health security to the poor by ensuring accessible, affordable, accountable and good quality hospital care.

ORGANIZATIONAL STRUCTURE OF NRHM



1.2 TASKS PERFORMED DURING INTERNSHIP:

The time of joining involved us in attending the NPCC meetings [National Programme Coordination Committee] where Statewise NPCC meetings were held at the Conference hall of MOHFW chaired by Health Secretary, **Ms. Sujatha Rao**, Additional Secretary and Mission Director, **Mr. P.K Pradhan** and Joint Secretary, **Mr. Amarjeet Sinha**. This meeting was also mandatory for NRHM Directors, Deputy Secretaries, Officials of all departments of MOHFW to attend. The Representatives from State (which constitutes the State's Principle Health Secretary, Mission Directors and Heads of other Departments of Health & Family Welfare of a State) presents a presentation in front of MOHFW stating their last year's targets, their successful achievements and the goals they have targeted for the coming year and the next 5 years of future, the core strategies and innovations (like incentives for ASHA, PPP, Health Insurance) they would like to implement within a State to achieve the set targets, the budget they would be required to implement such innovations and achieve the targeted goals.

As a Consultant we were required to note down the minutes of Proceedings for NPCC Meetings and keep a close tab on the budget demanded by the State and its approval or rejection by the chaired members and noting the important discussions and decisions taking place in the meeting. The other routine job involves answering the Parliamentary Questions, studying the PIP's [Programme Implemetation Planning] documents of various States, reviewing their Health Action Plans and the comments of various divisions of department of MOHFW on PIP and NHSRC [National Health Systems Resource Centre] on the Health Action Plans of State.

IN - DEPTH STUDY :

Preparing the Records Of Proceedings (ROP's) for the States after the NPCC Meetings is indeed a unique and challenging task which requires the study of previous 5 years of ROP's of each State, focusing on their set targets for future and past and analyzing the progress they have made so far [with respect to every aspect], analyzing the budget allocated to Staes in past and its utilization and the budget demanded by them now, analyzing the targets they

have achieved in comparison to other States with respect to all the departments of Health and National Programmes and NRHM.

The Infrastructure Division of NRHM is collating the information on the number of PHC's, CHC's and District Hospitals in every backward districts of India categorizing it under 3 main categories namely Difficult, Most Difficult and Inaccessible areas in relation to accessibility of Healthcare Facility. The Data is being demanded by all the States of India and keeping in view the significance of GIS Mapping where all the information is just a click away, Infrastructure Division of MOHFW involved us in plotting this information on Maps of States and on various Districts. This requires us to accumulate the data from JSK (Jansankhya Sthirata Kosh) and States Directory and Data sent by the State.

1.3 BRIEF REPORT ON MANAGERIAL TASKS PERFORMED IN VARIOUS DEPARTMENTS / PROGRAMMES :

The NPCC meetings involved us managing several aspects of management right from managing the Documentation part to organizing and conducting the National level meetings. The File management is a big task of responsibility.

12th April, 2010 was celebrated as the day when NRHM completed its 5 years and the event was organized at Vigyan Bhavan. This involved us in managing the event in various aspects and Rajasthan was awarded as the Best Performing State under NRHM. Event was attended by the National and State level Officials and Who's Who of the Ministry.

Preparation of ROP's for every Staterequires us to be a team player and deliver the work under the restricted time guidelines and work under pressure, coordinating with Ministry Officilas, State Officials and NHSRC Officials.

The GIS Mapping involves the same task responsibilities.

1.4 REFLECTIVE LEARNING DURING INTERNSHIP :

Understanding an Organizational Behaviour and culture is the biggest milestone if someone wants to excel in that Organisation. Previous professional experience with the private and Corporate Organisations is lot more different than what we have learnt in this Government Organisation. One Organisation with several Departments and thousands of employees working under its umbrella, dealing with their HR Issues and day to day administrative tasks is a remarkable thing to observe there and this teaches that India is democratic Country.

Attending the National level meetings and hearing the State's targets and their achievements taught us how far National Programmes have reached and what potential they have to accomplish their set targets.

Coordination and sense of Belongingness is what keeps such a large organization keep going and achieve remarkable targets. Preparing of ROP's taught us how many factors and not one factor is responsible for the development of any Nation's Health.

Gis Mapping work educate us on the valuable insights of the condition of accessibility of healthcare facilities in the remote areas of India, availability of Healthcare professionals in these remote areas and the strategies being continuously adopted by MOHFW to retain the staff in these remote regions. Answering the parliamentary questions was yet another challenging job.

PART – II

DESSERTATION ON

“ A STUDY ON ASSOCIATION BETWEEN ACCESSIBILITY TO PRIMARY HEALTHCARE FACILITY AND MATERNAL HEALTH INDICATORS IN 54 BACKWARD DISTRICTS OF 3 STATES OF INDIA ”

CHAPTER – I

INTRODUCTION

2.1.1 PRIMARY HEALTHCARE

Though the year 2007 marks both the 60th birthday of WHO and the 30th anniversary of the Declaration of Alma-Ata on Primary Health Care in 1978. While our global health context has changed remarkably over six decades, the values that lie at the core of the Alma-Ata Declaration have been tested and remain true. Yet, despite enormous progress in health globally, our collective failures to deliver in line with these values are painfully obvious and deserve our greatest attention.

We see a mother suffering complications of labour without access to qualified support, a child missing out on essential vaccinations, an inner-city slum dweller living in squalor. We see the absence of protection for pedestrians alongside traffic-laden roads and highways, and the impoverishment arising from direct payment for care because of a lack of health insurance. These and many other everyday realities of life personify the unacceptable and avoidable shortfalls in the performance of our health systems.

In moving forward, it is important to learn from the past and, in looking back, it is clear that we can do better in the future. Thus, there is a strong need to highlight such issues of redesigning the primary healthcare package. Though GoI, by capitalizing on the momentum, investment in primary healthcare reforms is committed to transform health systems & improve the health of individuals, families & communities everywhere, still needs to identify & explore the contextual specificity of primary healthcare package according to Indian context and what should be the framework for the costing of this package, rather then just spending we need to realise on what we are spending and how much is sufficient to spend per capita.

Expectations have never been so high. Public policies in the health sector, together with those in other sector, have a huge potential to secure the health of communities. They represent an important complement to universal coverage & service delivery reforms. Unfortunately, in most societies, this potential is largely untapped & failures to effectively engage other sectors are widespread. Looking ahead at the diverse range of challenges associated with the growing

importance of ageing, urbanization & the social determinants of health, there is, without a question, a need for a greater capacity to seize this potential. That is why, a drive for better public policies, forms a pillar supporting the move towards primary healthcare, along with universal coverage & primary care.

Healthcare in India is the responsibility of constituent states and territories of India. The Constitution charges every state with "raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties". The National Health Policy was endorsed by the Parliament of India in 1983 and updated in 2002.

Although India has eradicated mass famines, half of children in India are underweight, one of the highest rates in the world and nearly double the rate of Sub-Saharan Africa. Water supply and sanitation in India continue to be abysmal; only one of three Indians has access to improved sanitation facilities such as toilet. India's HIV/AIDS epidemic is a growing threat. Cholera epidemics are not unknown. The maternal mortality in India is the second highest in the world.

Providing healthcare and disease prevention to India’s growing population of more than a billion people becomes challenging in the face of depleting resources. 2.47 million people in India are estimated to be HIV positive. India is one of the four countries worldwide where polio has not as yet been successfully eradicated and one third of the world’s tuberculosis cases are in India.

According to the World Health Organization 900,000 Indians die each year from drinking contaminated water and breathing in polluted air. As India grapples with these basic issues, new challenges are emerging for example there is a rise in chronic adult diseases such as cardiovascular illnesses and diabetes as a consequence of changing lifestyles.

There are vast disparities in people’s health even among the different states across the country largely attributed to the resource allocation by the state governments where some states have been more successful than others. Better efforts are needed by the local governments to ensure that the health services provided are actually reaching the poor in worst-affected areas.

2.1.1a. PRIMARY HEALTHCARE SERVICES IN INDIA

Health care facilities and personnel increased substantially between the early 1950s and early 1980s, but because of fast population growth, the number of licensed medical practitioners

per 10,000 individuals had fallen by the late 1980s to three per 10,000 from the 1981 level of four per 10,000. In 1991 there were approximately ten hospital beds per 10,000 individuals.

Primary health centers are the cornerstone of the rural health care system. By 1991, India had about 22,400 primary health centers, 11,200 hospitals, and 27,400 clinics. These facilities are part of a tiered health care system that funnels more difficult cases into urban hospitals while attempting to provide routine medical care to the vast majority in the countryside. Primary health centers and sub-centers rely on trained paramedics to meet most of their needs. The main problems affecting the success of primary health centers are the predominance of clinical and curative concerns over the intended emphasis on preventive work and the reluctance of staff to work in rural areas. In addition, the integration of health services with family planning programs often causes the local population to perceive the primary health centers as hostile to their traditional preference for large families. Therefore, primary health centers often play an adversarial role in local efforts to implement national health policies.

According to data provided in 1989 by the Ministry of Health and Family Welfare, the total number of civilian hospitals for all states and union territories combined was 10,157. In 1991 there was a total of 811,000 hospital and health care facilities beds. The geographical distribution of hospitals varied according to local socio-economic conditions. In India's most populous state, Uttar Pradesh, with a 1991 population of more than 139 million, there were 735 hospitals as of 1990. In Kerala, with a 1991 population of 29 million occupying an area only one-seventh the size of Uttar Pradesh, there were 2,053 hospitals.

Although central government has set a goal of health care for all by 2000, hospitals are distributed unevenly. Private studies of India's total number of hospitals in the early 1990s were more conservative than official Indian data, estimating that in 1992 there were 7,300 hospitals. Of this total, nearly 4,000 were owned and managed by central, state, or local governments. Another 2,000, owned and managed by charitable trusts, received partial support from the government, and the remaining 1,300 hospitals, many of which were relatively small facilities, were owned and managed by the private sector. The use of state-of-the-art medical equipment, often imported from Western countries, was primarily limited to urban centers in the early 1990s. A network of regional cancer diagnostic and treatment facilities was being established in the early 1990s in major hospitals that were part of government medical colleges. By 1992 twenty-two such centers were in operation. Most of the 1,300 private hospitals lacked sophisticated medical facilities, although in 1992

approximately 12% possessed state-of-the-art equipment for diagnosis and treatment of all major diseases, including cancer. The fast pace of development of the private medical sector and the burgeoning middle class in the 1990s have led to the emergence of the new concept in India of establishing hospitals and health care facilities on a for-profit basis.

By the late 1980s, there were approximately 128 medical colleges - roughly three times more than in 1950. These medical colleges in 1987 accepted a combined annual class of 14,166 students. Data for 1987 show that there were 320,000 registered medical practitioners and 219,300 registered nurses. Various studies have shown that in both urban and rural areas people preferred to pay and seek the more sophisticated services provided by private physicians rather than use free treatment at public health centers.

Indigenous or traditional medical practitioners continue to practice throughout the country. These professions are frequently hereditary. A variety of institutions offer training in indigenous medical practice. Only in the late 1970s did official health policy refer to any form of integration between Western-oriented medical personnel and indigenous medical practitioners. In the early 1990s, there were ninety-eight ayurvedic colleges and seventeen unani colleges operating in both the governmental and non-governmental sectors.

2. 1.1b CENTRAL GOVERNMENT ROLE

Critics say that the national policy lacks specific measures to achieve broad stated goals. Particular problems include the failure to integrate health services with wider economic and social development, the lack of nutritional support and sanitation, and the poor participatory involvement at the local level.

Central government efforts at influencing public health have focused on the five-year plans, on coordinated planning with the states, and on sponsoring major health programs. Government expenditures are jointly shared by the central and state governments. Goals and strategies are set through central-state government consultations of the Central Council of Health and Family Welfare. Central government efforts are administered by the Ministry of Health and Family Welfare, which provides both administrative and technical services and manages medical education. States provide public services and health education.

The 1983 National Health Policy is committed to providing health services to all by 2000. In 1983 health care expenditures varied greatly among the states and union territories, from Rs 13 per capita in Bihar to Rs 60 per capita in Himachal Pradesh, and Indian per capita

expenditure was low when compared with other Asian countries outside of South Asia. Although government health care spending progressively grew throughout the 1980s, such spending as a percentage of the gross national product (GNP) remained fairly constant. In the meantime, health care spending as a share of total government spending decreased. During the same period, private-sector spending on health care was about 1.5 times as much as government spending.

2.1.2 POOR PERFORMING EAG (EMPOWERED ACTION GROUP) STATES

In order to facilitate the preparation of area-specific programmes, with special emphasis on eight states that have been lagging behind in containing population growth (contributes 45% of the population of the country) to manageable limits, the Government of India has constituted an Empowered Action Group (earlier known as BIMARU states) in the Ministry of Health and Family Welfare w.e.f. 20th March,2001. The members of the group consist of Minister for Health and Family Welfare, Chairman, Minister of State for H&FW, Vice Chairman and members are Secretaries of these 8 states,Secretaries of different Central Govt. Deptts, Advisor(Health) Planning Commission ,other Central Govt. officials and Joint Secretary(P) D/O Family Welfare as its convener. The Group will also concentrate on involving voluntary associations, community organizations and Panchayati Raj Institutions. It will explore the possibility of expanding the scope of social marketing of contraceptives in a manner that makes them easily accessible even while raising awareness levels and enhance performance particularly in states with below average socio-demographic indices that need focused attention. In preparation for the First Business Session of the EAG, the Department of Family Welfare has painstakingly prepared a comprehensive data set in respect of the 261 districts constituting these 8 states viz. Bihar, Jharkhand, Uttar Pradesh, Uttaranchal, Rajasthan, Orissa, Madhya Pradesh and Chhatisgarh.

The National Population Policy has listed short and long term goals to be achieved for population stabilisation and achievement of Key Socio-Demographic Indicators by the year 2010 and 2045. One of the key objectives is attainment of TFR of 2.1 by 2010 for the country. It is felt that although progress in some States is satisfactory, poor performance in Bihar, U.P., M.P., Rajasthan and Orissa is proving to be a drag on national achievement. Therefore, unless urgent and focused interventions are undertaken to address the issues of reproductive and child health care in these States, the attainment of the demographic goal set in the NPP, 2000 seems unlikely. The three new States of Uttaranchal, Jharkhand and

Chhattisgarh, have been included in the EAG, both on account of unsatisfactory socio-demographic indicators and also to provide an impetus to the strengthening of the primary health care infrastructure, a prerequisite for efficient delivery of Family Welfare services.

The National Population Policy had envisaged creation of a Technology Mission to assist demographically low performing States for accelerating the pace of implementation of FW policies. However, the Prime Minister in his address to the National Population Commission announced creation of an Empowered Action Group in the Ministry of Health and Family Welfare for undertaking measures for population stabilisation and intersectoral convergence.

The Empowered Action Group constituted by Order dated 20th March, 2001 is an administrative

mechanism that was established for the purpose of closely monitoring the implementation of Family Welfare Programmes in the EAG States to facilitate the preparation of area specific programmes to address unmet needs. The EAG is chaired by the Union Minister for Health and Family Welfare and consists of Secretaries of various related Departments, Advisor, Planning Commission, NGOs and experts. Initially eight States of UP, MP, Bihar, Rajasthan, Orissa, Uttaranchal, Chhattisgarh and Jharkhand have been identified as EAG States.

The EAG is a high powered one window clearance mechanism for approving schemes, to finalise strategies and address the gaps in the on-going programmes, and also to facilitate intersectoral convergence. It provides a specific focus on the concerned States and helps them to plan, implement and monitor interventions aimed at raising performance indicators so that they can attain the goals set for the 10th Five Year Plan, and in the NPP 2000. The EAG functions as an over-arching mechanism, which shall oversee implementation of schemes and utilization of funds provided under the Domestic Budget of the Department of Family Welfare and Externally Aided Projects in respect of EAG States. The EAG is competent to sanction funds for initiatives, which would have ordinarily required detailed clearances from Expenditure Finance Committee/Standing Finance Committee. The EAG is assisted by an Inter-Ministerial Sub Committee under the Chairmanship of Secretary (FW), which examines the proposals received from State Governments and cognate Departments for funding under the EAG mechanism. The recommendations of the Sub Committee are placed before the Empowered Action Group.

2.1.3 HIGH FOCUS DISTRICTS IDENTIFIED BY MOHFW

After seeing the varied performances under NRHM shown by different districts within the different States, MOHFW asked NHSRC to select the worst performing districts under

NRHM in terms of poor Health Indicators from every state of India so that the special focus can be put on these districts to improve their Health Indicators under the umbrella of NRHM. NHSRC identified 235 poor performing districts that need special attention in terms of Healthcare Infrastructure, Healthcare Staff and resources and funds to improve their state and termed as 235 High Focus Districts. The document stating the basis and criteria chosen by NHSRC for selecting these 235 High focus districts has not yet been published by NHSRC, however, the similar task has been performed by Planning Commission's special Inter-Ministry task group in January, 2005. This special task group provided their report on redressing growing regional imbalances in India where they have identified 170 most backward districts in India including the 55 extrmists affected areas. Poor resource endowment, uneven Human development, uneven resource allocation, uneven availability of Physical Infrastructure and poor Budgetary Resources are few parameters which they have taken as the basis for selecting these 170 most backward districts including the 55 extremists affected areas.

2.1.4 LEARNINGS FROM MAPPING TASK GIVEN BY MINISTRY

While preparing the ROP's and attending the NPCC Meetings provides the insight on how far NRHM has reached in achieving its mission and vision of providing health for all to the rural population of India and how States are delivering results with a wide disparity of performance among various districts within the States and also between the states. Mapping the various District Hospitals, CHC's and PHC's in various districts of India according to the difficult, most difficult and inaccessible areas categorized by MOHFW enlightens the thinking that what effect can a distance of a healthcare facility laid on the healthcare indicators of these districts.

2.1.5 GENESIS OF THE STUDY

The above task provided the genesis of the study that what impact can a distance of primary healthcare facility laid on the health indicators of a district. For this purpose we need to select the states to study that is there a real correlation between the distance and the health indicators of various districts. We selected 3 states of Bihar, Rajasthan and Orissa, on which I have done the mapping work, these 3 states are the EAG States. Due to time limitation we

keep the scope of study limited and tried to identify the relation between the distance of primary healthcare facility in the 54 districts of these 3 states and the maternal health indicators of the districts of these states. Why maternal health indicators were selected for study ? The rationale behind this is that since MMR is one indicator which is at maximum in these districts and GOI and MOHFW are striving hard to provide every facility in these districts to improve the situations in these areas. And PHC is one centre where Doctor is available for patients and can held deliveries. Therefore, the data on distance of PHC's in these 54 high focus districts are collected and its correlation with maternal health indicators was found.

2.1.5a HOW DISTANCE CAN PLAY AN IMPORTANT ROLE IN REDUCING MMR

This heading briefly capsules some of the thinking about obstacles obstetrics patients encounter on the way to a care facility, which is based on over 200 research studies or articles. Delay in seeking care is presented in 3 ways. The 1st is in the decision to seek care. The 2nd delay is in reaching a facility after the decision is made, which is the subject of this article. The 3rd delay is in receiving the needed care. Distance and unavailability of public transportation in many studies were expressed as obstacles that prevented women from reaching the hospital. There is not systematic documentation in the literature of these types of delays. Consequently, programs which identify high risk women for hospital delivery and raising community awareness may be ineffective if there is inaccessibility of the facility. Urban areas have better access to health facilities, and there is uneven distribution in rural areas even in developed countries such as Portugal. The implications of the shortage of health facilities and health care providers and the uneven distribution are that limited access interferes with usage. The nature of the terrain and the condition of the roads and the actual distances are considerations. Many inhabitants must walk or improvise a means of transportation to reach health care, because there is a scarcity of public transportation. The patients condition may deteriorate on the way which makes treatment more difficult, provided the patient is still alive upon arrival. A decision to seek care may be timely, but impaired access prevented utilization. An additional complication is a situation where the nearest facility is not equipped to treat the condition or even administer essential first aid. A further delay occurs in transporting the patient to the proper facility. Death enroute data is scarce, and may be included in home deaths, but maternal mortality study data is available.

2.1.6 JSK

The **"Jansankhya Sthirata Kosh"** (JSK) (National Population Stabilisation Fund) has been registered as an autonomous Society established under the Societies Registration Act of 1860. JSK has to promote and undertake activities aimed at achieving population stabilisation at a level consistent with the needs of sustainable economic growth, social development and environment protection, by 2045.

The Union Health Minister heads the General Body of JSK and the Ministries of Health and Family Welfare, Women and Child Development, Department of School Education & Literacy, Rural Development, Planning Commission are represented by their Secretaries on the General Body of JSK. All State Governments are members of JSK. Besides this the General Body has demographers, representatives of Industry & Trade, NGOs, medical and para-medical associations, general citizens as its members. This enables JSK run as a civil society movement drawing on the strength of its partners.

2.1.6a. INNOVATION STRATEGIES OF JSK

JSK has started a **Call Centre** service to give information on **reproductive health and family planning** in English and Hindi, using computer based software. The service is being used by those who want telephonic advice particularly adolescents, newly married and about-to-be married couples. Technical support has been provided by NIC, NASSCOM and the Central Bureau of Health Intelligence(CBHI).

JSK has introduced two unique strategies named *"**Prerna**" and "**Santushti**".*

"***Prerna***" provides an opportunity for couples who have fulfilled specific **responsible parenthood** criteria to become entitled to receive a reward.

Under the "***Santushti*****"** strategy private gynecologists are being encouraged to perform 100 tubectomy (laparoscopic sterilization operation) / NSV for which the doctors will be paid according to compensation rates already notified by the Government with an additionality for fast track quality service. An MOU is signed between the district CMHO and private facilities.

JSK has mapped 450 districts in India through a unique amalgamation of ***GIS maps and Census data*** which gives a picture of each district, its sub-divisions and the population of

every village along with the distance to the health facility. *The maps highlight inequities in coverage down to every village* to enable resources to be targeted where they are needed most. The GIS mapping and amalgamation of census data has been completed for the entire country except North Eastern states and Himachal Pradesh due to the non-availability of village level boundary data there.

2.1.7 DLHS – III

The Ministry of Health and Family Welfare (MoHFW), Government of India has designated the International Institute for Population Sciences (IIPS), Mumbai as the nodal agency for conducting the District Level Household and facility Survey (DLHS). The District Level Household Survey (DLHS) was initiated in 1997 with a view to assess the utilization of services provided by government health care facilities and people's perceptions about the quality of services. The District Level household Survey (DLHS -3) is the third in the series of district surveys, preceded by DLHS-1 in 1998-99 and DLHS-2 in 2002-04. As in DLHS-3, the International Institute for Population Sciences (IIPS) was the nodal agency to conduct DLHS-1 and DLHS-2. DLHS-3, like other two earlier rounds, is designed to provide estimates on important indicators on maternal and child health, family planning and other reproductive health services. In addition, DLHS-3 provides information on important interventions of National Rural Health Mission (NRHM). Unlike other two rounds in which only currently married women age 15-44 years were interviewed, DLHS -3 interviewed ever-married women (age 15-49) and never married women (age 15-24).

The sample size among the districts in the country varies according to their performance in terms of ante-natal care (ANC), institutional delivery, immunization, etc. and it was fixed based on information related to such indicators from DLHS-2. For low performing districts, 1500 Households (HHs), for medium performing districts, 1200 HHs and for good performing districts, 1000 HHs were fixed as sample size. In case of Belgaum, sample size was 1200 households with 10% additional HHs to take care of non-response/refusal, etc.

The survey used two-stage stratified random sampling in rural and three-stage stratified sampling in urban areas of each district. The information from 2001 Census was used as sampling frame for selecting primary sampling units (PSUs). In rural areas, all the villages in the district were stratified into different strata based on population /HH size, percentage of SC/ ST population, female literacy (7+), etc. The required number of villages from each

strata were selected with probability proportional to size (PPS). In selected primary sampling units (villages), household listing was done and required number of households were selected using systematic random sampling.
For larger villages (more than 300 HHs) segmentation was carried out. In case of 300 to 600 HHs, two segments of equal size were made and one was selected using PPS. For PSUs having more than 600 HHs, segments of 150 HHs were created depending on the size and then two segments were selected using PPS. In case of urban areas, number of wards were selected using PPS at first stage. In a selected ward, one enumeration block from 2001 census was selected again using PPS. Procedure for segmentation, houshold selection, etc, was same as in the case of rural PSUs.

The uniform bilingual questionnaires, both in English and in local language, were used in DLHS-3 viz., Household, Ever Married Women (age 15-49), Unmarried Women (age 15-24), Village and Health facility questionnaires.

In the household questionnaire, information on all members of the household and the socio-economic characteristics of the household, assets possessed, number of marriages to usual members of the household since January 2004 and deaths in the household since January 2004 etc. was collected. In case of female deaths, attempts were made to assess maternal death. The household questionnaire also collected information on respondent's knowledge (seen/read/heard) about messages related to various government health programmes being spread through media and other sources.

The ever married women's questionnaire consisted of sections on women's characteristics, maternal care, immunization and child care, contraception and fertility preferences, reproductive health including knowledge about HIV/AIDS.

The unmarried women's questionnaire contained information on her characteristics, family life education and age at marriage, reproductive health-knowledge and awareness about contraception, HIV / AIDS, etc.

The village questionnaire contained information on availability of health, education and other facilities in the village and whether the health facilities are accessible throughout the year.

For the first time, population-linked facility survey has been conducted in DLHS-3. In a district, all Community Health Centres (CHCs) and District Hospital (DH) were covered. Further, all Sub-centres (SC) and Primary Health Centres (PHC) which were expected to serve the population of the selected PSU were also covered. There were separate questionnaires for SC, PHC, CHC and DH. They broadly include questions on infrastructure, human resources, supply of drugs & instruments, and performance.

2.1.8 UNDERSTANDING MMR (MATERNAL MORTALITY RATIO) IN INDIA AND EAG STATES

According to WHO, Maternal health refers to the health of women during pregnancy, childbirth and the postpartum period. While motherhood is often a positive and fulfilling experience, for too many women it is associated with suffering, ill-health and even death.

The major direct causes of maternal morbidity and mortality among women of reproductive age in developing countries include haemorrhage, infection, high blood pressure, unsafe abortion, and obstructed labour. The maternal mortality ratio represents the risk associated with each pregnancy, i.e. the obstetric risk. It is also a MDG indicator.

2.1.8a. MATERNAL DEATH

Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. To facilitate the identification of maternal deaths in circumstances in which cause of death attribution is inadequate, a new category has been introduced: Pregnancy-related death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.

Live birth refers to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life - e.g. beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles - whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered live born.

2.1.8b. DATA SOURCES

Vital registration, health service records, household surveys, census.

2.1.8c. THE INDIAN SCENARIO

Surveys, special studies or indirect estimation of MMR have been made to assess levels of maternal mortality in India. Estimates of MMR vary between 400-500 per 100,000 live births. According to World Health Organization (WHO) estimates, India accounted for 25.7 percent of maternal deaths in the world in 2000 (i.e. 136,000 out of 529,000 global maternal deaths occurred in India). This is the highest for any single nation in the world. Maternal mortality in India varies by region and state. MMR is higher in the eastern and central regions and lower in the north western and southern regions. Socio-economic variations are not well documented in India.

A report, "**Advocating Accountability: Status Report on maternal Health and Young People's Sexual and Reproductive Health and Right in South Asia**", prepared by South Asian Association for Regional Cooperation (**SAARC**) revealed the above figures about India, maintaining that the main cause was the unskilled birth attendants. The overall MMR of the SAARC region was 500 per 100000 live births, which is among the highest in the world. The region also accounts for approximately 7.2 million unsafe abortions annually according to the report.

Another report on "**Maternal and Newborn Health**", released in Jaipur on January 24, **2009**, by the **UNICEF** says about 8000 women and 1.17 lakh children die every year in Rajasthan due to complications arising out of pregnancy and child birth. While Rajasthan contributes about 7 per cent of the total live births in India, it accounts for 9.2 per cent of the total maternal deaths.

MMR UNDER SAMPLE REGISTRATION SYSTEM (SRS) IN 3 EAG INDIA STATES (1998)

Table 1

S.NO.	STATE'S NAME	MMR UNDER SRS (1998)
1.	**RAJASTHAN**	**670 (445 as per January 2009 Report, ranking 3rd at present in MMR)**
2.	**BIHAR**	**452**
4.	**ORISSA**	**369**
	INDIA'S MMR	**407**

There was an overall relative decline in maternal mortality of nearly 24 percent during 1997-2001. This included a 16 percent decline in the 8 Empowered Action Group (EAG) states of Bihar, Jharkhand, Orissa, Madhya Pradesh, Chattisgarh, Rajasthan, Uttar Pradesh and Uttaranchal. In contrast, MMR has fallen by only 7 percent in the southern states of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. MMR has declined from 398 in 1997-98 to 301 in 2001-2003 in India according to a report on 'Maternal Mortality in India: 1997-2003 – Trends, Causes and Risk Factors'. MMR is higher in the EAG states and Assam than in the other states in India. In 2001-03, lifetime risk of a woman dying during childbirth was 1.8 percent in the EAG states and in Assam, 0.4 percent in the southern states and 0.6 percent in other states.

UNICEF's latest report, "State of the World's Children – 2009" says that in India, more than two-thirds of all maternal deaths occurred in U.P., Uttaranchal, Bihar, Jharkhand, Orissa, M.P., Chhattisgarh, Rajasthan and Assam. Despite an increase in institutional deliveries, 60 per cent of women still deliver their babies at home. **Causes** of Maternal Deaths and Complications (most of which occur either during or shortly after delivery):

Research shows that common risk factors for maternal deaths are: a mother's age below 20 years or above 35 years, illiteracy, poor socio-economic status and lack of antenatal care. Some of the commonly identified factors include bad obstetric history, anemia, maternal

complications and diseases, delivery by an unskilled person and unsafe abortions. These can be further elaborated:

During Pregnancy: The percentage of women who seek antenatal (pre-delivery) care at least once, is 63 percent in Africa; 65 percent in Asia and 73 percent in Latin America and the Caribbean. At the country level, however, use of such services can be extremely low. In Nepal, for example, only 15 percent of women receive antenatal care. Poor or negligible care during pregnancy is an important factor in aggravating death.

During Childbirth: Each year, 60 million women give birth with the help of untrained traditional birth attendant or a family member or with no help at all. Almost half of births in developing countries take place without the help of a skilled birth attendant (such as a doctor or midwife), which increase the cases of casualties during birth.

After Delivery: The majority of women in developing countries receive no post-partum (after delivery) care. In very poor countries and regions, as few as 5 percent of women receive such care.

Causes preventing women in Developing Countries from seeking/getting their needed Life-Saving health Care include:

• Distance from health services;
• Cost (direct fees as well as the cost of transportation, drugs and supplies);
• Women's lack of decision-making power within the family;
• Multiple demands on women's time;
• Poor quality of services, including shoddy treatment by health providers, makes some women reluctant to use services;

Most maternal deaths, many health problems among women and children, and also the deaths of at least 1.5 million infants each year could be **prevented through**:

• Routine maternal care for all pregnancies, including a skilled attendant (midwife or doctor at birth);
• Emergency treatment of complications during pregnancy, delivery and after birth;

• Post Partum (after delivery) family planning and basic neonatal (within a week of birth of

baby) care. Such care would cost about $3 per person per year in low income countries. Basic maternal care alone can cost as little as $2 per person per year.

• Improvement of women's status alongwith support from their husbands and raising awareness about the consequences of poor maternal health. Families and communities must encourage and enable women to receive proper care during and after delivery.

2.1.9 DATA COLLECTION AND VARIABLES CONSIDERED FOR STUDY

All the data collected was through secondary sources.

The Maternal Health Indicators were selected from DLHS – III data, because district wise data is being published by DLHS only. The 6 Maternal Health Indicators specified by DLHS-III in their survey are : percent of mothers registered in the first trimester when they were pregnant with last live births / still births, percent of mothers who had atleast 3 ANC visits during the last pregnancy, percent of mothers who got atleast one TT injection when they were pregnant with their last live births / still births, percent of Institutional births, percent of deliveries at home assisted by a Doctor/ Nurse/ LHV/ ANM and percent of mothers who received post natal care within 48 hours of delivery of their last child.

For the distance of PHC's JSK's district level data for PHC's allocation within each district was considered. The "Jansankhya Sthirata Kosh" (JSK) (National Population Stabilization Fund) has undertaken a unique exercise with the help of National Informatics Centre to create maps which show the existence of health facilities district wise. These maps are an amalgamation of GIS maps and Census data which give a picture of each district, its sub-divisions and the location of Primary Health Centres, Sub Centres, prominent towns and urban areas. Separately for each district there is an excel sheet which gives the distance of each village** in each taluka (Sub-District) from the Primary Health Center. The population of every village has been given according to Census data, using the Census Code. (The village names are therefore not in alphabetic order). Only those villages where distance from the PHC was collected by census 2001 are displayed in JSK's exercise. There are many villages in the States which have been excluded where the distance from the PHC was not available with census. The distance of each village from the Primary Health Centre in every district was

categorized as : PHC's within 0-5 kms of distance, PHC's within 5-10 kms of distance and PHC's at more than 10 kms of distance.

2.1.10 TOOLS USED FOR ANALYSIS

SPSS is used for finding the correlation between the accessibility of primary healthcare facility and the maternal health indicators. The Pearson Corelation Coefficient is used as the statistical tool for establishing the correlation between the 2 variables. It was a Bivariate Analysis.

2.1.11 SCOPE OF STUDY

The study can provide the basis for the further researches in context to the importance of distance of healthcare facility and its impact on various other health indicators apart from maternal health indicators. It can be helpful for policy making and decision making. It can provide a useful insight in further planning of Health Action Plans of various districts and states.

2.1.12 LIMITATIONS OF STUDY

The study work is the Author's view and recommendations are the views presented by the author and should only be considered for various other purposes like policy making, public health action plans and decision making after a thorough research. The study is limited to 3 states only due to limited working knowledge and time limitations.

2.1.13 OBJECTIVES OF THE STUDY

The Objectives of the study are classified into two main categories :

SPECIFIC OBJECTIVES

- To study that whether there is a relation between the accessibility of primary healthcare facility and the maternal health indicators of 54 high focus districts of 3 states of India.

OTHER OBJECTIVES

- To promote physical health infrastructure in India.

- To attract the attention of Policy makers on importance of distance in achieving a goal of providing a primary healthcare facility to all irrespective of their region, religion, gender etc.
- To sincerely make an attempt to provide the basis of establishing a relationship between the accessibility of primary healthcare and other health indicators.
- To study how the most nearby easily accessible healthcare facility can affect improving the health indicators in India.

2.1.14. LITERATURE SURVEY

Various literatures and research papers published in past show that Delay in seeking care is presented in 3 ways. The 1st is in the decision to seek care. The 2nd delay is in reaching a facility after the decision is made. The 3rd delay is in receiving the needed care. Based on interviews of rural Kenyan women, of the 47% intending to deliver in a hospital, only 36% actually did so. Distance and unavailability of public transportation in other studies were expressed as obstacles that prevented women from reaching the hospital. Consequently, programs which identify high risk women for hospital delivery and raising community awareness may be ineffective if there is inaccessibility of the facility. Urban areas have better access to health facilities, and there is uneven distribution in rural areas even in developed countries such as Portugal. The example of an equitably distributed health network exists in Cuba. The implications of the shortage of health facilities and health care providers and the uneven distribution are that limited access interferes with usage. The nature of the terrain and the condition of the roads and the actual distances are considerations. Many inhabitants must walk or improvise a means of transportation to reach health care, because there is a scarcity of public transportation. The patients condition may deteriorate on the way which makes treatment more difficult, provided the patient is still alive upon arrival. An example is given of a Tanzanian women bleeding to death waiting for a taxi. A decision to seek care may be timely, but impaired access prevented utilization. An additional complication is a situation where the nearest facility is not equipped to treat the condition or even administer essential first aid. A further delay occurs in transporting the patient to the proper facility. Death enroute data is scarce, and may be included in home deaths, but maternal mortality study data is available.

CHAPTER – 2
RESEARCH METHODOLOGY

3.1 RESEARCH PROBLEM :

According to the decisions taken at Alma Ata Conference in 1982, the primary healthcare should be made accessible and affordable for all i.e HEALTH FOR ALL. Globally every country is striving hard for achieving this target and try to reach every individual irrespective of caste, creed, language, origin, region, religion, background, gender. In India where reduction in MMR is primary step in achieving the 5th MDG goal and reducing the burden of diseases it's a call of time to focus on the reality and search whether every women is getting their right to be served with primary healthcare facility or not. Government has now started focusing on 8 EAG states and North- Eastern States at prime priority under NRHM. The move is highly commendable and appreciable as many backward and remote areas are now being seeing with the operational primary healthcare units. But are they really accessible? Do people feel them within their reach? Does Distance of primary healthcare facility really affect the maternal health indicators? Is there any correlation between the accessibility of the primary healthcare facility and the maternal health indicators? **All these issues helps in formulating a Hypothesis that whether there is any correlation between the accessibility of primary healthcare facility and the maternal health indicators ?** Working on GIS Mapping give me the insight on the number of PHC's in various backward districts of 8 EAG States, many districts have PHC's at more than 10 kms.of distance, this raised a strong point for argument that when we talk about improving the maternal health and reduce MMR in India does distance of Primary Healthcare facility really has any correlation with materhnal health indicators?

The study if gets successful in establishing the correlation between the distance of the PHC facility and the maternal health indicators can then be helpful in establishing more PHC's within the reachable distance for the people of these backward districts or to plan more and more fully equipped 24x7 operational mobile units with skilled staff that can provide the

services at the time of emergency within no time and can really help in reducing MMR. Study can further be utilized for planning and decision making purposes.

3.2 RESEARCH DESIGN :

GENERAL METHODOLOGY : The methodology adopted for the study was simple and data collected was through secondary sources.

DATA SOURCE SPECIFICATIONS : While working on GIS Mapping for allocating the PHC's in various backward districts of EAG States depending upon the categorisation done by Ministry, most of data search involves searching district wise maps published by JSK (Jansankhya Sthirata Kosh) where they have identified and distributed the PHC's in every block and village for every district of each State under 3 categories : PHC's within 0-5 Kms, PHC's within 5-10 Kms, and PHC's at more than 10 kms.

Maternal Health Indicators were selected from the DLHS-III source, 6 maternal health indicators distinguished by DLHS-III were selected as 6 variables (namely, percent of mothers registered in the first trimester when they were pregnant with last live births / still births, percent of mothers who had atleast 3 ANC visits during the last pregnancy, percent of mothers who got atleast one TT injection when they were pregnant with their last live births / still births, percent of Institutional births, percent of deliveries at home assisted by a Doctor/ Nurse/ LHV/ ANM and percent of mothers who received post natal care within 48 hours of delivery of their last child) and their correlation was then find out by the accessibility of PHC's within 0-5 kms of distance, PHC's within 5-10 kms of distance and PHC's at more than 10 kms of distance.

DATA COLLECTION PROCEDURE : The data collected for the accessibility was from the official website of JSK provided by MOHFW and it is a body of MOHFW only. Each Districts's factsheet of DLHS-III data was provided by State Health Manager of Assam , Dr. Deepak Kar and which is available for Ministry Personnels.

DATA ANALYSIS : The analysis is quantitative type and to find out the correlation between the distance of the PHC facility and the maternal health indicators, SPSS software was used for computation and Correlation was established by using a Pearson's Coefficient Tool.

CHAPTER – 3

RESULTS & FINDINGS

4.1 ASSOCIATION BETWEEN ACCESSIBILITY TO PRIMARY HEALTHCARE FACILITIES & MATERNAL HEALTH INDICATORS :

The Correlation Matrix tables of 54 backward districts of 3 States measures the association between 6 maternal health indicators (namely, percent of mothers registered in the first trimester when they were pregnant with last live births / still births, percent of mothers who had atleast 3 ANC visits during the last pregnancy, percent of mothers who got atleast one TT injection when they were pregnant with their last live births / still births, percent of Institutional births, percent of deliveries at home assisted by a Doctor/ Nurse/ LHV/ ANM and percent of mothers who received post natal care within 48 hours of delivery of their last child) with accessibility of PHC's within 0-5 kms.of distance, 5-10 kms.of distance and more than 10 kms.of distance among various backward districts of 3 States. The Statewise analysis is as follows.

4.2 ANALYSIS OF BIHAR STATE :

TABLE - 2

CORELATION									
VARIABLES	**V1T**	**V2T**	**V3T**	**V4T**	**V5T**	**V6T**	**P1**	**P2**	**P3**
V1T	**1**								
V2T	**0.62**	**1**							
V3T	**0.41****	**0.68**	**1**						
V4T	**0.35****	**0.00**	**-0.16**	**1**					
V5T	**0.27**	**-0.12**	**-0.33***	**0.48*****	**1**				
V6T	**0.38****	**0.29***	**0.34****	**0.43****	**0.03**	**1**			
P1	**-0.21**	**-0.28**	**-0.03**	**0.16**	**0.05**	**0.11**	**1**		
P2	**0.28**	**0.31***	**0.36****	**0.36****	**0.06**	**0.36****	**-0.11**	**1**	
P3	**-0.05**	**-0.03**	**-0.25**	**-0.40****	**-0.08**	**-0.36****	**-0.66**	**-0.68**	**1**

VARIABLES :

V1T = percent of mothers registered in the first trimester when they were pregnant with last live births / still births

V2T = percent of mothers who had atleast 3 ANC visits during the last pregnancy

V3T = percent of mothers who got atleast one TT injection when they were pregnant with their last live births / still births

V4T = percent of Institutional births

V5T = percent of deliveries at home assisted by a Doctor/ Nurse/ LHV/ ANM

V6T = percent of mothers who received post natal care within 48 hours of delivery of their last child

P1T = Distance of PHC within 0-5 Kms. (%)

P2T = Distance of PHC within 5-10 Kms. (%)

P3T = Distance of PHC at more than 10 Kms.(%)

SIGNIFICANCE LEVEL :

*** 1% level of significance, highly significant

** 5 % level of significance, moderately significant

* 10 % level of significance, significant

The Correlation matrix results of Bihar state shows that mothers who had atleast 3 ANC visits during the last pregnancy is positively significant to the accessibility to primary health care facility within a distance of 5-10 kms, it also showcase that mothers who got atleast one TT injection when they were pregnant with their last live births/still births and institutional births are positively and moderately significant to the accessibility to Primary Health care Facility within a distance of 5-10 kms,The state results also show that mothers who received post natal care within 48 hours of delivery of their last child is positively and moderately significant to the accessibility to Primary Healthcare Facility within 5-10 kms of distance. The correlation matrix of Bihar state is establishing a negative and moderately significant relation of institutional births and mothers who received post natal care within 48 hours of delivery of their last child with accessibility to Primary Health Care Facility at more than 10 kms of distance.

4.3 ANALYSIS OF RAJASTHAN STATE :

TABLE. 3

CORELATION									
VARIABLES	**V1T**	**V2T**	**V3T**	**V4T**	**V5T**	**V6T**	**P1**	**P2**	**P3**
V1T	**1**								
V2T	**0.88**	**1**							
V3T	**0.80*** **	**0.92**	**1**						
V4T	**0.31**	**0.21**	**0.03**	**1**					
V5T	**0.31**	**0.25**	**0.21**	**-0.21**	**1**				
V6T	**0.41**	**0.63****	**0.55****	**0.59****	**-0.04**	**1**			
P1	**-0.26**	**-0.02**	**-0.07**	**0.30**	**-0.46***	**0.44***	**1**		
P2	**-0.21**	**-0.24**	**-0.35**	**0.52****	**-0.24**	**0.14**	**0.60****	**1**	
P3	**0.26**	**0.13**	**0.22**	**-0.45***	**0.40**	**-0.34**	**-0.91**	**-0.88**	**1**

VARIABLES :

V1T = percent of mothers registered in the first trimester when they were pregnant with last live births / still births

V2T = percent of mothers who had atleast 3 ANC visits during the last pregnancy

V3T = percent of mothers who got atleast one TT injection when they were pregnant with their last live births / still births

V4T = percent of Institutional births

V5T = percent of deliveries at home assisted by a Doctor/ Nurse/ LHV/ ANM

V6T = percent of mothers who received post natal care within 48 hours of delivery of their last child

P1T = Distance of PHC within 0-5 Kms.(%)

P2T = Distance of PHC within 5-10 Kms.(%)

P3T = Distance of PHC at more than 10 Kms.(%)

SIGNIFICANCE LEVEL :

*** 1% level of significance, highly significant

** 5 % level of significance, moderately significant

* 10 % level of significance, significant

Rajasthan’s correlation matrix results shows that the deliveries at home assisted by a doctor / nurse/ LHV/ ANM is not positively significant with accessibility to PHC facility at 0-5 kms.of distance whereas mothers who received post natal care within 48 hours of delivery of their last child is positively significant with accessibility to PHC facility within 0-5 kms.of distance. Institutional biths are positively and moderately significant to accessibility to PHC facility within 5-10 kms.of distance whereas it is not positively significant with accessibility to PHC at more than 10 kms.of distance.

4.4 ANALYSIS OF ORISSA STATE :

TABLE - 4

CORELATION									
VARIABLES	**V1T**	**V2T**	**V3T**	**V4T**	**V5T**	**V6T**	**P1**	**P2**	**P3**
V1T	**1**								
V2T	**0.2666**	**1**							
V3T	**0.0651**	**-0.1582**	**1**						
V4T	**-0.1466**	**0.2030**	**-0.0022**	**1**					
V5T	**0.1229**	**0.3251**	**-0.0124**	**0.8175*** **	**1**				
V6T	**-0.1463**	**-0.3133**	**-0.4763***	**-0.0504**	**-0.2370**	**1**			
P1	**0.2829**	**0.2573**	**0.2495**	**0.2320**	**0.5265***	**-0.4714**	**1**		
P2	**0.1767**	**0.1850**	**0.5505** **	**0.4699***	**0.3221**	**-0.2323**	**0.4234**	**1**	
P3	**-0.2860**	**-0.2701**	**-0.4140**	**-0.3677**	**-0.5295***	**0.4511**	**-0.9285**	**-0.7295*** **	**1**

VARIABLES :

V1T = percent of mothers registered in the first trimester when they were pregnant with last live births / still births

V2T = percent of mothers who had atleast 3 ANC visits during the last pregnancy

V3T = percent of mothers who got atleast one TT injection when they were pregnant with their last live births / still births

V4T = percent of Institutional births

V5T = percent of deliveries at home assisted by a Doctor/ Nurse/ LHV/ ANM

V6T = percent of mothers who received post natal care within 48 hours of delivery of their last child

P1T = Distance of PHC within 0-5 Kms.

P2T = Distance of PHC within 5-10 Kms.

P3T = Distance of PHC at more than 10 Kms.

SIGNIFICANCE LEVEL :

*** 1% level of significance, highly significant

** 5 % level of significance, moderately significant

* 10 % level of significance, significant

Orissa's correlation matrix results shows that the deliveries at home assisted by a doctor/ nurse/ LHV/ ANM is positively significant with accessibility to PHC facility at 0-5 kms.of distance whereas it is not positively significant with accessibility to PHC facility at more than 10 kms.of distance. Institutional births are positively significant to accessibility to PHC facilities within 5-10 kms.of distance and mothers who got atleast one TT injection when they were pregnant with their last live births/ still births is positively and moderately significant with accessibility to PHC facility within 5-10 kms.of distance.

4.5 COMPARISON BETWEEN THE ANALYSIS OF 3 STATES :

All the 3 States show both similarity along with diversity. The States of Bihar, Orissa & Rajasthan shows a strong positive significance between Institutional births and accessibility to PHC facility between 5-10 kms.of distance.

Bihar and Orissa both show a positive significance of mothers who got atleast one TT injection when they were pregnant with their last live births/ still births is positively and moderately significant with accessibility to PHC facility within 5-10 kms.of distance.

State of Bihar also show the positive significance of mothers who had atleast 3 ANC visits during the last pregnancy and mothers who received post natal care within 48 hours of delivery of their last child with accessibility to PHC facility within 5-10 kms.of distance.

State of Orissa shows that deliveries at home assisted by a doctor/ nurse/ LHV/ ANM is positively significant with accessibility to PHC facility within 0-5 kms.of distance whereas state of Rajasthan shows it as negatively significant.

CHAPTER – 4

CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSION

The study closely show the strong and positive significance correlation between more than 3 indicators out of 6 maternal health indicators taken in study with the distance of PHC's within 0-5, 5-10 and at more than 10 kms of distance in 54 districts of 3 states.

The most important note to observe is that if the primary healthcare facility is easily accessible to the people then there is a natural increase in the utilization of services specially in Institutional deliveries. The percentage of Institutional deliveries is more in the districts of these 3 states where the primary healthcare facility is available near the vicinity of people i.e PHC's allocated within 0-5 kms of distance.

Also the less distance of PHC allocation within the district ensures the large utilization of healthcare services like home deliveries assisted by skilled professionals like doctors/ nurse/ LHV/ANM etc. and more number of percentage of women using TT injection facility and 3anc check-ups.

4.2 RECOMMENDATIONS

Various innovative steps can help declining the MMR in India and in improving maternal health indicators of India. They are :

- Distance is a vital factor that plays an important role in declining MMR, hence the accessibility of primary healthcare facility should mostly be within 0-5 kms of distance so that there could be no delay in seeking help both in normal as well as the emergency situations.

- Posting of more and more number of midwives at the village level and trained SBA’s so that they can refer a complicated case as quickly as possible.
- Referrals and proper transport, and better service conditions significantly contributed to maternal mortality decline.
- The pregnancy-related knowledge, attitudes, and practices of community members, and women's use of community maternal health services should be encouraged through various community programmes in these remote areas.
- Extensive hostility between the two most commonly used health-care providers: traditional birth attendants and midwives should be encouraged so that women can confide in them and seek help from them.

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