CHAPTER-I

INTRODUCTION TO RURAL HEALTHCARE MANAGEMENT

A Primary Health care System without Medicines is Therefore like a River without Water.

W.H.O

1. Introduction

The concept of Primary Health Centre (PHC) is not new to India. The Bhore Committee in 1946 gave the concept of a PHC as a basic health unit to provide integrated curative and preventive health care to the rural population with emphasis on preventive and promotive aspects of health care. The health planners in India have visualised the PHC and its Sub-Centres (SCs) as the proper infrastructure to provide health services to the rural population. The Central Council of Health, at its first meeting held in January 1953, had recommended the establishment of PHCs in community development blocks to provide comprehensive health care to the rural population. These centres were functioning as peripheral health service institutions with little or no community involvement. Increasingly, these centres came under criticism, as they were not able to provide adequate health coverage to the target population, partly because they were poorly staffed and equipped and lacked basic amenities.

The Sixth Five year Plan (1983-88) proposed reorganization of PHCs on the basis of one PHC for every 30,000 rural residents in the plains and one PHC for every 20,000 population in hilly, tribal and desert areas so as to provide more effective coverage. However, as the population density in the country is not uniform, the number of PHCs would depend upon the case load. Ideally, PHCs should be able to provide 24 hours nursing facilities. Select PHCs, especially in large blocks where the CHC is over one hour of journey time away, may be upgraded to provide 24 hour emergency hospital care for a number of conditions by increasing the number of Medical Officers. Preferably such PHCs should have the same international primary healthcare stander IPHS norms as for a
CHC. There are 23458 PHCs functioning in the country as per Rural Health Statistics Bulletin published in July, 2010. The number of PHCs functioning around the clock are 8409 and number of PHCs where three staff Nurses have been posted are 6263 (as on 31-3-2010).

PHCs are the cornerstone of rural health services– a first port of call to a qualified doctor of the public sector in rural areas for the sick and those who directly report or are referred from Sub-centres for curative, preventive and promotive health care. It acts as a referral unit for 6 sub-centres and refers major cases to Community Health Centres (CHCs-30 bedded hospital) and higher order public hospitals at sub-district and district hospitals. It has 4-6 indoor beds for patients. PHCs are not spared from issues such as the inability to perform up to the expectation due to: (I) non-availability of doctors at PHCs; (ii) even if posted, doctors do not stay at the PHC HQ; (iii) inadequate physical infrastructure and facilities; (iv) insufficient quantities of drugs; (v) lack of accountability to the public and lack of community participation; (vi) lack of set standards for monitoring quality care, etc. Standards are a means of describing the level of quality those health care organizations are expected to meet or aspire for. Key aim of these standards is to underpin the delivery of quality services which are fair and responsive to the client’s needs, which should be provided equitably and which deliver improvements in the health and wellbeing of the population. Standards are the main drivers for continuous improvements in quality. The performance of health care delivery organizations can be assessed against the set standards. The National Rural Health Mission (NRHM) has provided the opportunity to set Indian Public Health Standards (IPHS) for Health Centres functioning in rural areas.

**Deliver improvements in the health and wellbeing of the population.** In order to provide optimal level of quality health care, a set of standards are recommended for Primary Health Centre to be called Indian Public Health Standards (IPHS) for PHCs.

The nomenclature of a PHC varies from State to State that include a Block level PHCs (located at block HQ and covering about 100,000 population and with varying number of indoor beds) and additional PHCs/New PHCs covering a population of 20,000-30,000, etc. The standards prescribed in the document reference above are for three grades of PHCs depending upon the case load and the distance. These are: (I)
Essential Standards for a normal PHC without around the clock facilities, (ii) Desirable standards for PHC with 24x7 nursing facilities and (iii) PHC with 24x7 Emergency Hospital Care facilities, as mentioned above. Regarding the block level PHCs, it is expected that they are ultimately going to be upgraded as Community Health Centres with 30 beds for providing specialized services. Setting standards is a dynamic process. Currently, the IPHS for Primary Health Centres has been prepared keeping in view the resources available with respect to functional requirement for PHCs with minimum standards. These include: buildings, manpower, instruments, and equipments, drugs and other facilities. It is desirable that, on the basis of essential services, each State/UT should issue the Government notification for minimum mandatory standards for services at PHC.

Government is not the only provider of health care. PHC is not something to be “delivered” and the community is not a passive recipient of health care. The community has to play a major role in ensuring that the people do access the right type of services at the right time. Lack of access to safe drinking water and poor sanitation are major factors responsible for the continued high mortality rate due to infections in India. Widespread illiteracy, lack of health awareness and poor state of rural roads has all contributed to poor access to existing health services. The Panchayati Raj institutions have a critical role in monitoring the services provided, bringing about accountability of the service providers and improving inter-sectoral coordination.

Government of India has launched the National Rural Health Mission to rapidly rectify inadequacies in primary health care system so that the goals set in the National Health Policy are achieved by 2012. Nutrition Foundation of India organized a symposium on “Primary Health Care New Initiatives” on November 29th -December 1st 2006 to discuss the new initiatives for ensuring universal access to good quality PHC provided by Government, voluntary and private sectors and improving utilization of available services through people’s participation.

India has a large public health care system. Rural healthcare service is provided through a Network of sub-centres, primary health care centers, community health centres and District hospitals. The Alma Ata Conference defines Primary Health Care as essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally, accessible to individuals and families in the
community by means acceptable to them, through their full participation and at a cost affordable for the community and country can to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part of both the country’s health system, of which it is the central function and the main focus and of the overall social and economic development of the community. In rural areas, most primary health care is provided either by sub centres or primary health care centres, whereas in urban areas, it is provided via health posts and family welfare centres. Before the economic reforms of the early 1990s, in the mid-1980s, public spending on healthcare in India had peaked at about 1 percent of GDP and 4 percent of the government budget. During the 1990s, government health spending did not keep up with the expanding economy and budget, with the result that by 2001 public spending on health constituted only 0.9 percent of GDP and 2.7 percent of the government budget. These numbers fell further to 0.8 percent and 2.4 percent, respectively in 2007-08. The government of India has articulated the commitment of the government to raise public spending on health from 0.9 of GDP to 2-3 of GDP, the healthcare sector in India The share of private expenditure as to the total expenditure on health has grown from about 60% to almost 80% over the last decade. The current share of public expenditure on health is 20%. With a view to raise government expenditure on health as a proportion of GDP from 0.9% to a target of 2-3 % by 2012, the government launched the National Rural Health Mission [NRHM] in 2005. As per the 11 Plan document the central government and the state governments cumulatively contribute 0.34% and 0.56% of GDP respectively to healthcare and related services.

1.1. Definition of Health Care Management

Health care management has been defined as the use of clinical and information technology, as well as managerial and leadership skills, to ensure the optimal delivery of health care. Citation Health care is an expansive industry that ranges from preventative care, to emergency services, to follow-up and rehabilitation. Without effective management, the coordination of healthcare is not possible.

1.1.1. Management Skill Set

The management of a health care facility or a health care system requires expertise. Similar to many industries, the individual who has a health care leadership or
management role often has a specific skill set and experience. Skill sets frequently include project and programme management, the ability to lead staff, flexibility and budgetary oversight. The American college of Health Care Executives notes that, depending on the size of the facility, an executive may have oversight for a small or expansive staff. The health care executive must also have the ability to relate to patients, as well as the patient's family. Educational requirements often include at least a Bachelor's degree and a Master's degree may be preferred. In some cases, clinical experience, such as a nursing background or physician experience is needed.

1.1.2. Technology

USA’s National Centre for Health Care Leadership notes that health care management involves the use of information technology. Health care is in the process of being transformed, and the role of information technology cannot be overlooked. Information technology has numerous applications in health care, from the front office registration process to the online assessment of patients through a telemedicine system. Information technology systems provide administrators and clinicians with metrics and outcomes that can influence the delivery of health care. The use of information technology in health care can also support best practices for the optimal delivery of patient care.

1.1.3. Cost

Health care management involves fiscal oversight. Health care costs are a complex issue that impacts every component of the health care delivery system. The Kaiser Family Foundation notes that health care expenses in the United States exceeded $2 trillion in 2008. In 2008, the cost for health care per family was approximately $7,600. Health care managers and leaders are exploring ways to contain costs while ensuring that safe and effective patient care is delivered. Health care management supports health care systems to remain conscientious of revenue and expenses while promoting patient outcomes, patient satisfaction and optimal patient care.

1.2. What is a Health System as per WHO

A health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health. This includes efforts to influence determinants of health, as well as more direct health-improving activities. A health
system is, therefore, more than the pyramid of publicly owned facilities that deliver personal health services. It includes, for example, a mother caring for a sick child at home; private providers; behaviour change programmes; vector-control campaigns; health insurance organizations; occupational health and safety legislation. It includes inter-sectoral action by health staff, for example, encouraging the Ministry of Education to promote female education, a well known determinant of better health.

Essential healthcare can be made universally accessible to individuals and families in the community by means acceptable to them through their full participation and at a cost that the community and country can afford. It forms an integral part both of the country’s health system of which it is the nucleus and of the overall social and economic development of the community. (WHO)

1.2.1 Basic Health Services.

The levels of healthcare available in urban areas in most cases could meet the secondary, tertiary and, in some places, highly specialised needs of the people. Providing a similar level of healthcare in rural areas was unthinkable mainly as the estimated cost would have been astronomical and neither the infrastructure nor the personnel were equipped to take on this challenge. The vast differences in almost all aspects of accessing and availability of healthcare between rural and urban areas led to a slow and phased approach being adopted, where it was envisaged that at least a basic level of healthcare should be provided in the rural areas.

Post Second World War, the emphasis of development theories mainly stressed the importance of building infrastructure like roads, dams, industries and similar structures, and concepts like health and other social services such as education were considered as non-productive expenditure sectors (Walt, 1990). In the decades following that, it appears that a paradigm shift in the ideology of development took place where access to concepts like universal education and health were considered as an intrinsic part of the improvement of mankind. According to WHO (1973), it was during the mid-sixties that the idea of basic health services was developed promoting the further extension of the peripheral health centres and dispensaries in order to take services to where people lived, as opposed to them having access to urban health care centres. The idea mainly promoted was that there is an alternative to centralised hospital services, which would
lead to the eventual provision of services where people need them the most. The concept of basic health services had a good influence in India but it still had a lot of ground to cover in term of making services accessible to the rural masses.

On the grounds of basic health services, the basis for the next level of the evolution of the primary health care was formulated. In 1978, in the conference organised by UNICEF and WHO, the 134 heads of health ministries from all over the world jointly made a declaration, now most commonly known as the Alma Ata declaration. Here, there was an enthusiastic uptake of primary health care as a strategy for many developing countries to ensure that they can adopt according to the need perceived. Broadly, the following can define this declaration.

“The Alma Ata Declaration, Primary Health Care, at that period produced a lot of optimism about working towards ‘Health for all by the Year 2000’. Health was upheld as a basic human right. Primary Health Care was to have a far-reaching, even liberating potential. It embraced the World Health Organization's broad definition of health as ‘complete physical, mental and social well-being’. It mandated universal availability of basic health services, with special concern for those in greatest need. To overcome the underlying human-made causes of ill health, it called for working toward a new economic order based on equity”. (Werner 2001)

India whole heartedly signed and accepted the Alma Ata declaration in 1979. This gave healthcare a new impetus to make access and availability a virtual right for all the citizens. Furthermore, it gave a lot of credence to the slogan “Health for All” (by 2000). With hindsight, it does not take much to realise that a number of the stated policies still remain rhetorical and are yet to be fulfilled. It did not take a long period of time before this declaration and its goals were picked apart. They were seen to be too ambitious in terms of comprehensive primary health care with a limited budget and being too all-encompassing. A more targeted approach needs to be adopted in order to meet the health needs of people at risk and the most vulnerable people. Concepts, such as selective primary health care, were devised and other programmes introduced in view of the criticisms of a comprehensive approach.

Furthermore, the advent of Health Sector Reform, mainly attributed to organizations like the World Bank and the International Monetary Fund (IMF), recommended that governments should reduce spending on their agencies by allowing open market policies, privatisation and liberalisation as ways to develop. The
implications of the enforcement of conditions stipulated by such bodies did have an effect on primary health care. Overall, in amongst the numerous moves and strategies over the years, these ideas have had a great impact on primary health care. Indeed, according to WHO reports primary health care is close to becoming a pejorative concept, something perhaps not worth promoting in view of the many failings (Roemer 1986) (WHO 2000). This chapter, however, will examine primary health care as a movement and its current relevance in an Indian context.

**Primary Health Care Was Defined**

At Alma Ata in 1978 and was then seen as the vehicle for achieving health for all. It is a fact that majority of the population in developing countries, especially in the rural areas depend on primary health care systems for their health needs. It is also a fact that many diseases that cause death and disability in developing countries can be prevented, treated or their effect reduced with cost-effective essential medicines. It is therefore important that essential medicines are available at this lowest level of health care.

1.2. Defining the Concept of Primary Health Care.

There has been ongoing change in the perceptions and understanding of primary health care. For instance, in 1920, Lord Dawson’s report in England implied that ‘primary care’ was mainly concerned with the first contact of medical care (Hetzel, 1978). This type of concept was simple to understand and quite universal as it included only one aspect about people’s access to medical care when they require it. With the concept of health being included in theories of development, primary health care has taken aboard a wide range of aspects that are intended to integrate a holistic approach of complete wellbeing of mankind. For instance, according to the then Director General of the WHO, in 1975:

“Primary health care is taken to mean a health approach which integrates at the community level all the elements necessary to make an impact upon the health status of the people. Such an approach should be an integral part of the national healthcare system. It is an expression or response to the fundamental human needs of how can a person know of, and be assisted in the actions required to live healthy life, and where can a person go if he/she needs relief from pain or suffering. A response to such needs must be a series of simple and effective measures in terms of cost, technique and organisation, which are easily accessible to the people in need and which assist in improving the living conditions of individuals, families and communities. These include preventative, promotive, curative and rehabilitative health measures and community development activities”. (WHO 1975.)
It is very obvious that the concept of primary health care has progressed enormously from being perceived as a primary contact for accessing medical care for individuals, to where it accommodates a wider purpose of a holistic community development agenda at the grassroots level. How much of this agenda has been taken up by each country differs, as there are major differences in the perception of primary health care between developed and developing countries. In most of the developed world, primary health care involves a range of services that would be seen by the weak world as lavishness or a distant concept that could be aspired for at best. Not intending to interpret this concept from the viewpoint of the developed world. This study will discuss its importance in an Indian context.

The international conference on Primary Health Care, held in Alma Ata in 1978, characterised the Primary Health Care programme as follows (W.H.O. 1978): “Primary health care is essential health care based on practical, scientifically sound and socially suitable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their growth in the spirit of self-reliance and self determination. It forms an integral part both of the country’s health system, of which it is the central function and main focus and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process”. The contents of Primary Health Care are described by W.H.O document (W.H.O 1978) as follows:

1. Reflects and evolves from the economic conditions and sociocultural and political characteristics of the country and its communities and is based on the application of the relevant results of social, bio-medical and health services research and public health experience.

2. Addresses the main health problems in the community, providing promotive, preventive, curative and rehabilitative services accordingly; The Alma Ata Includes at least; education concerning prevailing health problems and the
methods of preventing and controlling them; promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation; maternal and child health care, including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; and provision of essential drugs;

3. Involves, in addition to the health sector, all related sectors and aspects of national and community development, in particular agriculture, animal husbandry, food industry, education, housing, public works, communications and other sectors; and demands the co-coordinated efforts of all those sectors”.

1.3. Primary Health Care as a Rural Alternative.

Interestingly, primary health care in India has largely, by default, taken the role of providing healthcare mainly for rural areas, as opposed to all its citizens. This is because of the great imbalances and inequalities that exist between urban and rural areas, in terms of health and healthcare facilities. This study acknowledges that there are populations within urban areas like those who live in slums areas, who could have a far worse health status and may be susceptible to repeated bouts of endemic diseases caused by poor environmental conditions, as opposed to those who live in rural areas. However, in terms of accessing health facilities, the urbanites have a bias disproportionately favouring them.

It was estimated by the WHO in 1975 that only a fifth of the rural population in developing countries receives any basic form of healthcare on a regular basis. The multiple deprivations suffered by families unable to access healthcare were identified and their stunning effects on the potential for growth and development were described (Ebrhim & Ranken, 1988). Statistics indicate that at the beginning of the millennium, out of the projected 1.3 billion population of the world living under the poverty line (World Bank, 2000), Indians comprise nearly a third of this estimated number, of which 75% live in rural areas (IFAD 1992), although the levels of poverty have been contested since it is undisputed that poverty has an adverse effect on millions of people in India. For a country with such adversities in its path of development, it does not take much persuasion to be convinced that there will be serious health-related issues that need to be addressed. Poverty, compounded by other corresponding attributes, has an adverse effect on health,
especially on the rural populace. A few of the complementary attributes of poverty having an adverse effect on rural population are best described in the words of Mullen:

“There have been powerful vectors of rural differentiation, erosion of livelihood systems, marginalization, and disempowerment of men and women. Worsening socio-economic profiles between rural and urban areas, particularly in terms of public goods, such as healthcare and education, and income-earning opportunities are in evidence”. (Mullen, 2002)

The concept of primary health care was not necessarily designed only for rural population, but the plight of many developing nations that have a similar population distribution where most of the people reside in rural areas, and uneven development on many fronts that mostly favoured urban areas. It was considered that this concept appeared to be well suited to be adopted. In the case of India, over two thirds of the populations live in rural areas. Providing healthcare at the levels seen in the towns and cities was not possible on many accounts, primarily due to the inability to meet the financial cost. Even if the funds were hypothetically available, there would still be problems that might occur, some of which have been aptly described by Phillips (1990).

“In most third world developing nations, most persistent problems in improving health and welfare do not necessarily stem solely from the complexity or expense of medical technology and the scarcity of financial sources. Rather, problems tend to derive from design deficiencies or from practical difficulties of policy implementation and management”.

There were other known obstacles, such as shortage of trained technical and administrative staff, poor infrastructure and distribution systems, that would invariably hamper the implementation of programmes for people’s access to healthcare. In India, these problems have been persisting and it has been an ongoing struggle to resolve them. Therefore, what India considers as primary health care has aspects that are relevant for most other developing countries. India has based its primary health care concepts mostly in and around the general ideas generated by international bodies like the World Health Organization. The bodies generally try to adopt a comprehensive approach to providing health care to the rural population.

‘Primary Health care is essential healthcare based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation and at cost that the
community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.’ (WHO, 1978)

This definition has quite a large remit and can be interpreted ambiguously as each country will determine according to their need and ability to provide healthcare. There are certain universal aspects, which define principles and components of primary healthcare.

**Table 1.1 - Principles and Components of Primary Health Care.**

<table>
<thead>
<tr>
<th>Principles of PHC</th>
<th>Components of PHC</th>
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<tr>
<td>Equity</td>
<td>Education concerning health problems and Methods.</td>
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<td></td>
<td>Promotion of food supply and proper nutrition</td>
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<td></td>
<td>An adequate supply of safe water and sanitation.</td>
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<td></td>
<td>Maternal and child health care including family planning.</td>
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<td>Self reliance</td>
<td>Healthcare services performance</td>
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<tr>
<td></td>
<td>Providing facilities to the beneficiaries</td>
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<td></td>
<td>Delivery services to the beneficiaries</td>
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<tr>
<td>Prevention</td>
<td>Delivery of quality healthcare services</td>
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<td></td>
<td>Community participation</td>
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<td></td>
<td>Coordination with community by ASHA/VHW</td>
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<td></td>
<td>Appropriate treatment of common diseases and injuries.</td>
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<td></td>
<td>Provision of essential drugs.</td>
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<td></td>
<td>Prevention and control of local endemic diseases.</td>
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During the development and progress of primary health care through the years, a lot has been added to this list of activities, and it is still evolving and not yet exhaustive, e.g., interactive community participation and coordination of various government departments and sectors involved. India has accepted most of the concept of primary health care, at least on the policy level, but there appears an uneven implementation of this concept in its entirety. Certain aspects seem to be well covered or stringently observed like family planning. However, on the other hand, many preventable deaths, such as infant mortality, though very high in the Indian states that have poor health indicators, are not fought with the same enthusiasm, nor have similar proportions of finance allocated. However, these
activities that define primary health care are mostly of intrinsic beneficial value to mankind especially to those who are usually vulnerable and whose healthcare needs are compelling.

1.4. The National Rural Health Mission

The National Rural Health Mission (NRHM) was announced in September 2004 as a part of the Common Minimum Programme of the Government of India with the following goal: “to promote equity, efficiency, quality and accountability of public health services through community driven approaches, decentralization and improving local governance”. The duration of the Mission is seven years (2005-2012) and its focus is on 18 states where the challenge of strengthening the weak public health system and improving key health indicators is the greatest. Taking an ‘omnibus approach’ by integrating existing vertical health programmes, the NRHM seeks to provide effective health care to the rural population, especially the disadvantaged groups including women and children, by improving access, enabling community ownership and demand for services, strengthening public health systems for efficient service delivery, enhancing equity and accountability and promoting decentralization.

The key components of the NRHM to achieve these objectives include the following:

1.4.1. Accredited Social Health Activist (ASHA) Programme: The core component of the NRHM is the Accredited Social Health Activist (ASHA) Programme, which involves placing a community based change agent at a 1000 population level, to catalyse a sustainable community-owned process for behavioural change and to facilitate access to basic health services by the poor. The primary role of the ASHA is to create awareness on health and its social determinants and mobilise the community towards local health planning and increased utilisation and accountability of the existing health services. She would be a promoter of desired health practices and will also provide a minimum package of curative care as appropriate and feasible for that level and make timely referrals.

1.4.2. Strengthening Public Health Infrastructure: The NRHM recognises that strong public health systems are imperative for achieving improved health outcomes. The Mission has allocated additional funds for strengthening the public health service delivery infrastructure, particularly the sub centres, the PHCs and the CHCs for the
provision of primary and first contact curative care. This would be accompanied by improved management capacity to organise health systems and services in public health by emphasizing evidence based planning and implementation.

1.4.3. Fostering Public-Private Partnerships: The NRHM will support civil society participation to increase social participation and community empowerment, promoting healthy behaviours at the community level, and improving intersectoral convergence. This component also includes the regulation of the private sector to improve equity, transparency and accountability and reduce out-of-pocket expenses of both the workers and the beneficiaries. 

1.4.4. Decentralisation of Health Planning: One of the core strategies of the NRHM is to empower local governments to manage, control and be accountable for public health services. It envisions the setting up of the State Health Mission led by the State Departments of Health and Family Welfare, the District Health Mission led by the Zila Parishad and the Village Health Plan to be formulated by the Gram Panchayat. The NRHM has created structures at each of these levels for the planning and implementation of the initiatives to be undertaken within the Mission.

Given the numerous shortcomings of many community health worker (CHW) programmes and the hopeful experiences from the recent Mitanin Programme in Chhattisgarh, the NRHM has identified the impediments of the past scaled CHW programmes and recognised the need for change. The disparity in experiences of CHW programmes initiated by civil society groups in intensive field areas and by states at scale can be traced to three main factors, namely, programme design that involves the conceptualisation of the role and profile of the community health worker, support structures at the level of the community and linkages with the health system; lack of state capacity in terms of technical resources to conceptualise and implement the programme at scale; and lack of civil society participation in designing and implementing these programmes in order to draw on the experience and technical knowledge of such groups to formulate informed state policies. It is in the light of this problem analysis that the NRHM has adopted the above mentioned core strategies.

Dr. D.C. Jain's explanation in his study about the NRHM and the ASHA highlighted the opportunities for the state, civil society and other stakeholders to
participate in the design and operationalisation of what would be the largest CHW programme in the world, and make a significant impact on the health of the country. Though improvements in some parameters like disease control appear to present a picture of achievements, the country cannot afford to overlook the overwhelming concerns and deterioration of health standards among the poor.

The main constraints before the state and the programme currently relate to: the differences in vital health indices such as infant mortality, neonatal mortality and maternal mortality among socio-economic groups; critical shortage of human power in the health sector; huge regional disparities between states, between rural and urban areas, and between different classes; the largely unregulated private sector that is gaining prominence with the continued absence of the public system; and issues related to quality of care in both public and private health systems. In programmatic implementation, lack of adequate monitoring mechanisms in formulation of schemes by the centre poses one of the major barriers to the success of programmes. Besides these, the NRHM Programmed workshop highlighted the issues, debates and queries relating to the perceived lack of autonomy for states in decision making and fund utilisation vis-a-vis the central government, the gap that arises due to this between conceptualisation and implementation, and the lack of state capacity to independently undertake these functions. Moreover, the issue of ambiguity in the implementation plan regarding selection, training, support structures, linkages with the public health system, monitoring and evaluation, and fund allocation for the ASHA programme was also raised.

1.5. Scenario of Rural Healthcare System in India

The health care system in India, at present, has a three-tier structure to provide health care services to its citizens. The first tier, known as primary tier, has been developed to provide health care services to the vast majority of rural people. The primary tier comprises three types of health care institutions, namely, Sub Centre (SC), Primary Health Centre (PHC) and Community Health Centre (CHC). The rural health care infrastructure has been developed to provide primary health care services through a network of integrated health and family welfare delivery systems. India is a signatory to the Alma Ata Declaration of 1978 and was committed to attaining the goal of “Health for All by the Year 2000 A.D" through the universal provision of primary health care
services (Government of India, 1983). However, India could neither achieve reproductive health related goals (Srinivasan, 2000 and Sood, 2000) nor could it develop a good health care infrastructure for rural people (Majumder, 1999). Productivity, efficiency and quality of care of public rural health service sector have always been questioned by scholars from many different fields. The present study makes an attempt to reveal the true condition of the system by examining the relationship between efforts and accomplishments.

1.5.1. Structure of Public Health System

The areas of operation of health and family welfare programs have been divided between the Union and the State Governments. The Seventh Schedule of the Constitution describes three lists of items viz. Union List, State List and Concurrent List for their functioning. Although, some items like public health, education, sanitation, etc. fall in the State list, items having wider ramification at the national level like population stabilization have been included in the Concurrent or the Union list.

Expansion of rural public health services received priority since inception of Five-Year Plans. Based on population norms, the primary health care infrastructure has been developed in rural areas as a three-tier system – Sub-Centre, Primary Health Centre and Community Health Centre; and the services of these three centres are also assisted by the presence of Rural Family Welfare Centres. The Sub-Centres provide first level contacts between the primary health care system and the community. Tasks assigned to these health institutions vary from state to state. In some states the Auxiliary Nurse Midwives (ANMs) stationed in sub-centres perform deliveries and refer only the complicated cases to PHCs or beyond. In some states the emphasis is on interpersonal communication so as to bring a behavioural change in maternal and child health, family welfare, nutrition, immunization, diarrhoeal control and control of communicable disease. The PHC is referral unit for about five to six Sub-Centres. Activities of PHC include curative, preventive and promotive health care as well as family welfare services. CHCs serve as first referral units (Furs) for four to five PHCs and also provide facilities for obstetric care and specialist consultations. According to norm, each CHC should have at least 30 beds, one operation theatre, X-Ray machine, labour room, laboratory facilities, and to be staffed by four medical specialists - surgeon, physician, gynaecologist and paediatrician.
According to data available for 2008-09 we have 145272 SCs, 22370 PHCs, and 4045 CHCs. (MoHFW, 2010)

1.5.2. Rural Health Care System – the structure and current scenario

The health care infrastructure in rural areas has been developed as a three tier system and is based on the following population norms:

Table 1.2 - Population norms

<table>
<thead>
<tr>
<th>Centers</th>
<th>Plain area</th>
<th>Hill/tribal/difficult area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub centers</td>
<td>5000</td>
<td>3000</td>
</tr>
<tr>
<td>Primary centers</td>
<td>30000</td>
<td>20000</td>
</tr>
<tr>
<td>Community centers</td>
<td>120000</td>
<td>80000</td>
</tr>
</tbody>
</table>

1.5.3. Sub-Centres (SCs)

The Sub-Centre is the most peripheral and first contact point between the primary health care system and the community. Each Sub-Centre is manned by one Auxiliary Nurse Midwife (ANM) and one Male Health Worker/ MPW (M). One Lady Health Worker (LHV) is entrusted with the task of supervision of six Sub-Centres. Sub-Centres are assigned tasks relating to interpersonal communication in order to bring about behavioural change and provide services in relation to maternal and child health, family welfare, nutrition, immunisation, diarrhoea control and control of communicable diseases programmes. The Sub-Centres are provided with basic drugs for treatment of minor ailments of men, women and children. The Ministry of Health & Family Welfare has been providing 100% Central assistance to all the Sub-Centres in the country since April 2002 in the form of salary of ANMs and LHVs, rent at the rate of Rs. 3000/- per annum and contingency at the rate of Rs. 3200/- per annum, in addition to drugs and equipment kits. The salary of the male workers is borne by the State Governments. Under the Swap Scheme, the Government of India has taken over an additional 39,554 Sub Centres from State Governments / Union Territories since April, 2002 in lieu of 5,434 numbers of Rural Family Welfare Centres transferred to the State Governments / Union Territories. There were 1, 45, 272 Sub Centres functioning in the country as on March 2010.

1.5.4. Primary Health Centres (PHCs)

PHC is the first contact point between village community and the Medical Officer. The PHCs were envisaged to provide an integrated curative and preventive
health care to the rural population with emphasis on preventive and promotive aspects of health care. The PHCs are established and maintained by the State Governments under the Minimum Needs Programme (MNP)/ Basic Minimum Services Programme (BMS). At present, a PHC is manned by a Medical Officer supported by 14 paramedical and other staff. It acts as a referral unit for 6 Sub Centres. It has 4 - 6 beds for patients. The activities of PHC involve curative, preventive, primitive and Family Welfare services. There were 22,370 PHCs functioning as on March 2010 in the country.

1.5.5. Community Health Centres (CHCs)

CHCs are being established and maintained by the State Government under the MNP/BMS programme. A CHC is manned by four medical specialists, i.e., Surgeon, Physician, Gynecologist and Pediatrician supported by 21 paramedical and other staff. It has 30 in door beds with one OT, x-ray equipment, Labour Room and Laboratory facilities. It serves as a referral centre for 4 PHCs and also provides facilities for obstetric care and specialist consultations. As on March, 2009, there were 4,535 CHCs functioning in the country.

1.5.6. First Referral Units (FRUs)

An existing facility (like a district hospital, sub-divisional hospital, or a community health centre) can be declared a fully operational First Referral Unit (FRU) only if it is equipped to provide round-the-clock services for Emergency Obstetric and New Born Care, in addition to all emergency services that any hospital is required to provide. It should be noted that there are three critical determinants for a facility to be declared as a FRU. These are: i) Emergency Obstetric Care including surgical interventions like Caesarean Sections; ii) New-born Care; and iii) Blood Storage Facility on a 24-hour basis.

1.6. Definition of Community Participation

A community may vary from a small cluster of families with common needs and interests to larger groups joined together by occupation, class, caste and religion in a geographic unit as in a village or urban neighborhood. The community structure can be both formal and non-formal. In the non-formal groups, rigid structuring is not found. There are various views about the definition of community participation and it may be
difficult to find any agreement among these. Nevertheless, one comprehensive and widely acceptable definition may be as follows:

"Community participation is an educational and empowering process in which the people, in partnership with those who are able to assist them, identify the problems and the needs and increasingly assumes responsibilities themselves to plan, manage, control and assess the collective actions that are proved necessary."

Ideally, true or active participation means that the people should be knowledgeable about their own health problems and they should identify the needs for their solution or reduction, draw out plans of actions according to the priority and the resources available; organise and implement the programmes, and monitor and control their progress; periodically evaluate the feedback, and do the reprogramming. However, under poor social and economic conditions, it may be hard to expect spontaneous participation from the people. People have to be mobilised and encouraged to take greater interest and responsibilities for the maintenance of their own health. Initially, the involvement may be passive, and this has to be gradually and progressively turn into more active participation.

1.6.1. Community Participation – This popular phrase in development circles which means different things to different people. Essentially, community participation aims to empower a community to control the decisions made with regard to developments that will affect them. It may be useful to think of participation on a continuum with empowerment as the ultimate goal, and consultation and involvement of people as steps towards that goal. The objectives of any Community Based Health Care Service delivery should include the following:

1. Strengthening the integration of community based health services into district healthcare systems
2. Increase access to PHC services through community based organization and non-profit organizations
3. Promotion of Community Based Services at all levels of care which will promote community confidence and wellness
4. Implementation of a monitoring and evaluation system for PHC.
The term community financing entails a system comprising consumer payment (either as a user fee, some form of pre-payment mechanism, or other charge) for health services at community level, the proceeds from which are retained within the health sector and managed at the local level. In addition, it is sometimes argued that community financing is a form of community participation which ensures that communities are not just passive recipients of services.” (McPake 1993).

A common feature of the definitions is the reference to the social values and principles underlying the design of community based financing. This includes: the principles of voluntary participation, built-in solidarity mechanisms, and reciprocity. In many societies, these principles originate from the traditional self-help mechanisms of the poor that have existed for a long-time embracing not only health (or primarily health) but also many other risks with potentially devastating financial implications (Atim, 1999, Musau, 1999, DeRoeck, 1996).

Based on the above, this study has adopted a broad definition of community financing that reflects all three of these common characteristics. For the purpose of this study based on literature review of health financing arrangements, characterised by the following, have been included:

1. The community (geographic, religious, professional, ethnic) is actively engaged in mobilising, pooling, and allocating resources for health care.
2. The beneficiaries of the scheme have predominantly low income, earning subsistence from the informal sector (rural and urban); or socially excluded.
3. The schemes are based on voluntary engagement of the community (although not necessarily of the individual community members).
4. The structure of resource mobilisation and benefits reflect principles of solidarity.
5. The primary purpose of the schemes is not commercial (i.e., not-for-profit).

The advantage of this broad definition is that it is inclusive of many different health financing arrangements with these common characteristics. Further, it effectively distinguishes community based health financing from other resource mobilisation instruments including out-of-pocket payments, voluntary private insurance, social insurance and general taxation. At the same time, the disadvantage of this definition is
that it does not address the problem of “apples and oranges”. In other words, this
definition does not facilitate comparability across the schemes. Health financing
arrangements that meet the above definition can still significantly differ from each-other
in terms of their objectives, structure, management, organisation and institutional
characteristics.

Some characteristics of community base healthcare financing are as follows:

1. Bhat, Anil (1998) separate the schemes based on the nature of the health risks
they cover and their ownership. They distinguish between high-cost low
frequency events (Type 1) and low-cost high-frequency events (Type 2).
Additionally, schemes are also presented by ownership arrangements
distinguishing among ownership by health facility, community,
cooperative/mutual, NGO, government and joint ownership.

2. Atim (1998) reviews the experience of mutual health organisations in Western
and Central Africa and separates schemes based on their ownership
(traditional clan or social network, social movement or association, provider
and community co-managed, community) and their geographical and socio-
professional criteria (rural, urban, profession/enterprise/trade union based).

3. Chowdhury S.N (1999) distinguishes between two poles of voluntary health
insurance systems: mutualistic or participatory model, and the provider driven
or technocratic model. His starting point is the risk-categorisation offered by
Bennett, et al and he arrives at these two typologies by adding 3 additional
characteristics, viz., size of target population, degree of overlap between the
scheme and the existing providers, intermediary institutions between the
source of funding and the destination of the funds.

4. Hsiao (2001) distinguishes among 5 types of community-based health
financing initiatives: direct demand side subsidies channeled to individuals
(e.g., Thai health card); cooperative health care, community based third party
insurance, provider sponsored insurance, producer or consumer cooperative.
The categorisation takes into account not only whether community
involvement is present, but also the strength of community involvement.
1.7. Scope of the Study

The present research work has been conducted in the state of Andhra Pradesh covering three regions, namely, coastal Andhra, Rayalaseema and Telangana. The study is confined to measuring the performances of the rural healthcare management system. The study mainly focuses on the two important rural healthcare management components, i.e., primary healthcare services delivery and rural healthcare community participation. The data has been collected from beneficiaries (patients) in primary healthcare centres; the respondents include male beneficiaries, female beneficiaries

1.8. Need and Significance of the Study

From literature survey the following issues in rural health care service delivery in India:

1. The Government of Andhra Pradesh have not implemented the guidelines suggested by the WHO in rural health care

2. The general principles of management are absent in the current rural health care delivery as suggested and need to evaluate the management practices for effective delivery of services to the beneficiaries.

Developing nations have been focusing on relevant infrastructure, technology, disease control, and health outcomes in terms of deaths and disability-adjusted life years, largely ignoring the service quality aspect from the patients’ viewpoint. However, researchers opine that real improvement in quality of care cannot occur if the user perception is not involved (Thompson and Sunol, 1995). Patients’ perception is significant (Donabedian, 1980) as it impacts their ‘health-seeking behaviour’ (National Commission on Macroeconomics and Health Report, 2005) including utilisation of services. Studies in developing nations in Asia such as Sri Lanka and Bangladesh (Andaleeb, 2000) have confirmed the impact of perceived quality of healthcare services on the utilisation. Evidently, quality of healthcare is important and demands continuous attention. Keeping this in mind, the current study aims to measure the perception of users availing rural healthcare services in AP with a view to provide valuable information to the policy makers about the areas that need attention for improvement in quality of healthcare. Furthermore, it seeks to further develop an analytical framework for the measurement of perceived rural healthcare delivery and quality improvement.
The literature review shows that earlier research mainly focused on macro level financing of rural health care and enough studies have not been undertaken to understand the micro level issues. Very little research was attempted on managerial aspects of rural health care service delivery in India. In this context, the general principles suggested by the WHO needs to be studied in the Indian context. Therefore, there is a need to study the management of rural health care service delivery in the new context (NRHM) and with new perspectives.

1.9. Research Questions

The following research questions emerged from the literature study and the interactions with primary healthcare centre beneficiaries:

1. Does the assessment of Healthcare Services Performance in rural primary care centre help in identifying the area of improvement.
2. What are the factors contributing to the provision of healthcare infrastructure facilities to the beneficiary.
3. Is the role of community participation significant in the management of primary healthcare.
4. Are the beneficiaries being neglected in providing adequate facilities like infrastructure, staff and proper healthcare relevant to the healthcare problems of the beneficiaries.

1.10. Research Design:

The research design constitutes the blueprint for the data collection, measurement and analysis of data. Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. The plan is the overall scheme or programme of the research. It includes an outline of what the investigation will do from writing hypothesis and their operational implications to the final analysis of data. A research design expresses both the structure of the research problem and the plan of investigation used to obtain empirical evidence on relations of the problem. In fact, the choice of research design must be appropriate to the subject under investigation. “A good research design will ensure that the information collected will be consistent with the objectives of the study and that the procedures regarding data collection is accurate and efficient”.
1.11. Objectives of the Study:
The main objective of the study is to examine the role of primary healthcare centres in rural healthcare management in Andhra Pradesh for identifying area of improvement which may possibly lead to effective management of rural healthcare entities. In order to substantiate the main objective, the following secondary objectives of the study have been framed:

1. To study the polices and practices of government of India for financing of rural healthcare services
2. To examine the management practice of rural health care services in Andhra Pradesh with reference to W.H.O guidelines
3. To assess the role of community participation in rural healthcare services in Andhra Pradesh.
4. To suggest factors which influence of the effective management of rural health care services

1.12. Hypotheses of the Study:
When a proposition is formulated for empirical testing, we call it a hypothesis. A hypothesis is a statement that assumes the relationship between two or more variables. A hypothesis can be of two types: (I) null hypothesis, and (ii) alternative hypothesis. Null hypothesis attempts to show that no variation exists between variables or that a single variable is no different than zero. The alternative hypothesis is in hypothesis testing, proposition that is accepted if the null hypothesis is rejected. Keeping in view the importance and significances of the study, the following hypotheses are setup for the study based on the review of literature.

**Hypothesis-1:** Beneficiaries are satisfied with services provided by the rural healthcare centers.

**Hypothesis-2:** Beneficiaries are highly dependent on availability of facilities in rural healthcare centers.

**Hypothesis-3:** There are significant deficiencies in providing delivery services on time to the beneficiaries at the primary healthcare centre level.

**Hypothesis-4:** Involvement of community participation will improve the overall health care delivery.
1.13. Limitation of the Study:
Any research study will be restricted in scope by particular inherent limitations that may creep in due to factors like: the choice of research design, sampling procedure and respondent selection. This study has the following limitations:

1. As resource constraints did not permit a study at the national level. As the study covered only one state in India, therefore the findings will be relevant only to those areas in India which reflect similar conditions.

2. The limitation of the study arises from its scope. The present study is conducted in the State of Andhra Pradesh and results may not be applicable to all places/regions/States in which rural healthcare services are being provided.

3. This research is restricted to a few selected variables even though there are more such variables related to the study.

1.14. Research Frame Work
1.14.1. Selection of Geographical Area for Study

There are three main regions in Andhra Pradesh - (1) Northern Circars, or coastal Andhra, (2) Rayalaseema, and (3) Telangana. The Circars or Coastal districts are developed and enjoy a greater degree of affluence than the other two regions. Rayalaseema is close to the coastal districts. Since rainfall here is less than in the coastal districts, drought conditions prevail sometimes. The Telangana region is of the former princely state of Nizam's Hyderabad, which is close to Maharashtra’s Marathwada region and some parts of Karnataka. The state of Andhra Pradesh has an area of 275,045 sq. km. and a population of 76.21 million. There are 23 districts, 1128 blocks and 28123 villages. The State has population density of 277 per sq. km (as against the national average of 312). The decadal growth rate of the state is 14.59% (against 21.54% for the country) and the population of the state is growing at a slower rate than the national rate. The study mainly focused on different type of policies and new healthcare schemes of which the most popular scheme is Arogyasri, which is an innovative scheme implemented for the first time in the country. The aim is to ensure health care to the poor, through insurance. The scheme also aims to provide health care to 90 percent of the state population, ultimately. All the poor, having white ration cards, are eligible for benefits under the scheme.
Out of 23 districts, a total of 3 districts have been selected for the study based on a specific criteria developed for this purpose. Prior to the selection of primary healthcare centre, the statistics on rural healthcare centre infrastructure and delivery services for the years from 1999-2000 to 2008-2009 had been collected. In this selection, the study primarily focused on district healthcare indicators like infrastructure, quality of services, delivery services and community involvement, as well as district population wise, Male Literacy Rate, female Literacy Rate, Density of Population, per capita income, annual growth rate. The three districts selected for the study are: the relatively underdeveloped districts of Mahaboob Nagar and Anantapur and the comparatively developed district of Guntur. According to Seshadri that the Mahaboob Nagar, Anantapur and Guntur districts of Andhra Pradesh show poor health indicators due to the uneven development in the health infrastructure and in the delivery of services (Seshadri, 2001).

From every category, a single district has been selected to draw the sample units for the study. The districts have been randomly selected to avoid the chances of bias of the sample.

The study is mainly focused on primary healthcare providing infrastructure facilities and primary healthcare delivery services in Andhra Pradesh. The sampling technique of the study is taken as "Representative Sampling". A representative sampling is a type of statistical sampling in which a researcher attempts to select individuals who are representatives of a large population. It is accurate technique to serve the large number of population in a wider coverage area. The beneficiaries’ sample size is 900 from the three districts. In each district, beneficiaries sample size is 300. The study on random basis selected 15 primary healthcare centres in each district.

1.14.2. Sample Design

The study has followed multi stage sampling method and the Random sampling method which is a form of cluster sampling. This method is adopted when all the sample elements in all the selected clusters may be prohibitively expensive or not necessary (Durbin, 1967; Kuno, 1976). The selection of sample at the different stages is represented as follows:

(1). First stage sampling (selection of district). Three districts selected out of the 23 districts in the State.
Second stage sampling (selection of PHCs). 45 PHCs out of 237 PHCs selected. On Simple random basis

Third stage sampling (beneficiaries). 900 Beneficiaries selected from 45 PHCs.


There are various formulae for calculating the required sample size based upon whether the data collected is to be of a categorical or quantitative nature (e.g., to estimate a proportion or a mean). These formulae require knowledge of the variance or proportion in the population and a determination as to the maximum desirable error, as well as the acceptable Type I error risk (e.g., confidence level).

Many researchers (and research texts) suggest that the first column within the table should suffice (Confidence Level = 95%, Margin of Error = 5%). To use these values, simply determine the size of the population down the left most column (use the next highest value if the exact population size is not listed). The value in the next column is the sample size that is required to generate a Margin of Error of 5% for any population proportion.

However, a 10% interval may be considered unreasonably large. Should more precision be required (i.e., a smaller, more useful Margin of Error) or greater confidence desired (0.01), the other columns of the table should be employed. The formula used for these calculations was:

\[ n = \frac{X^2 \times N \times P \times (1-P)}{(ME^2 \times (N-1)) + (X^2 \times P \times (1-P))} \]

Where:
- \( n \) = sample size
- \( X^2 \) = Chi - square for the specified confidence level at 1 degree of freedom
- \( N \) = Population Size
- \( P \) = population proportion (.50 in this table)
- \( ME \) = desired Margin of Error (expressed as a proportion)
For this study selected the appropriate sample size based on the above formula according to Krejcie & Morgan method

1. The study has selected the primary healthcare centre beneficiaries from three districts in Andhra Pradesh (MBNR, ANNP and GUNT).
2. The study has chosen random sample method of 45 primary healthcare centres out of 237 from all three districts in Andhra Pradesh.
3. According to National rural healthcare mission norms, one primary healthcare centre has to cover a population of 30000.
4. From each district, the study has selected for random sampling 15 equally primary healthcare centres, total population covered under the 15 PHCs (30000*15=450000) 450000.
5. The study also selected random sampling 45 primary healthcare centres, with a total population covered under the 45 PHCs (30000*45=1350000) 1350000.
6. For this study, the sample size required is 664 beneficiaries based on KREJCIE and MORGAN formula. With a confidence level of 99 percent however, the study had collected 900 samples for this study. (sources: raosoft.com)
7. Based on the above formula, for a population size of 300000000, a sample size of 664 is required. This study has a sample size of 900 sample size -, more than the size required by the formula.
As can be seen, using the table is much simpler than employing a formula.

Note: “N” is population size.
“S” is sample size.


1.14.4. Sources of Data and Tool for Data Collection

Data collection from beneficiaries was done through the structured questionnaire. These studies were conducted at mandal level PHCs. The scheme of data collection is presented below:

Table 1.6 - Scheme of Data Collection

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Levels of data collection</th>
<th>Respondents</th>
<th>Instrument used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PHCs</td>
<td>Beneficiary</td>
<td>Structure Questionnaire</td>
</tr>
</tbody>
</table>

The data has been collected from primary and secondary sources. The primary data has been collected from the beneficiaries in primary healthcare centres by administering structured questionnaire. The questionnaire has been a blend of open ended and close-ended questions. An appropriate scaling technique has been used to measure the response and all existing relevant document and reports have been consulted.
and field visits have been made to obtain first-hand knowledge of issues, problems and concerns. Semi structured interview were conducted with provider of primary healthcare services such as medical officer, store assistant and ASHA workers.

The secondary data on rural healthcare, rural healthcare data has been collected from the Indian healthcare report, Directorate of healthcare and Statistics, Ministry of Healthcare and family welfare departments. Most of the data has been collected from National Rural Healthcare Mission and World Health Reports from 2000 to 2010. The data on primary healthcare and community participation has been obtained from World Health Organisations database, Annual reports, Publications of the financial healthcare service sector Government agency and management educational institution and publications of the Directorate of healthcare and Statistics. Apart from the data on healthcare sector and healthcare NGOs report, the rural healthcare management related literature is reviewed from the journals, online database and other web resources. During the research period, the data is also accessed from the various libraries of universities, State and Central universities and management institutes, National Institute of rural healthcare Management, ASCI, and A.P State government Aarogyasri reports.

1.14.5. Pilot Study and Pre-Testing Questionnaire.

In this section, instruments for research have been developed, administered and validated. Instruments to measure rural healthcare centre performance, providing facilities to the beneficiaries, healthcare delivery services, healthcare quality and community participation have been adopted from research studies with necessary modifications suitable to the local conditions (Gunasekharan and Ngail, 2005; Aramyan, et.al, 2007). These instruments have been tested for reliability used in this research. After the data has been collected, the scales have been analysed to achieve the reliability of scales. Cronbachs Alpha. Reliability of construct refers to the accuracy with which the construct repeatedly measures the same phenomenon without much variation. The reliability of each construct and sub-construct in questionnaire has been examined using Chronbach”s Alpha (Chronbach, 1951). An alpha score larger than 0.6 is generally acceptable as sufficient accuracy for construct (Nunnally, 1978).

The reliability of a research instrument depends on the extent to which the instrument yields the same results on repeated trials. Although unreliability is always
present to a certain extent, there will generally be a good deal of consistency in the results of a quality instrument gathered at different times. The tendency toward consistency found in repeated measurements is referred to as reliability (Carmines & Zeller, 1979). The study made efforts to the gender (beneficiaries) bias at the levels of the primary healthcare centre and almost equal representation had been given to the three districts. It is observed that number of female beneficiaries is more compared to their male counterparts at the primary healthcare centre level.

For this study, one instrument has been designed. Initially, 69 statements were framed for beneficiary’s instruments. The pilot study was conducted during May and June, 2011 to test the reliability of the instrument. Table 1.7 shows the results of 180 respondents (beneficiaries). The alpha value of the pilot study shows 0.591 which is statistically not significant in management studies.

Table 1.7 - Reliability Statistics of Pilot Study

<table>
<thead>
<tr>
<th></th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha</td>
<td>0.591</td>
</tr>
<tr>
<td>No of items</td>
<td>69</td>
</tr>
<tr>
<td>N of cases</td>
<td>110</td>
</tr>
</tbody>
</table>

The Table shows the final value of Chronbach’s Alpha generated after the completion of data collection. Responses of the target sample of 900 have been analysed. It is found that the Chronbachs alpha value of beneficiaries “(0.728), are more significant as the value crosses 0.65, whereas minimum acceptable value is prescribed as 0.6. In the later stages, no item is removed from the construct for the analysis.

Table 1.8 - Reliability Statistics of the Final Study

<table>
<thead>
<tr>
<th></th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
<td>0.728</td>
</tr>
<tr>
<td>No of items</td>
<td>66</td>
</tr>
<tr>
<td>N of cases</td>
<td>110</td>
</tr>
</tbody>
</table>

It can be seen that while Table 1.7 shows the Beneficiaries Value as 69, the corresponding figure in Table 1.8 is 66. Since there were no responses to three questions/items, the figures have been decreased accordingly. However, even after such a deletion, the value of alpha did not differ much. Also, all items of the questionnaire are significant.
1.14.6. Data Editing and Statistical Tool

1. Percentage analysis has been applied to create a table from the frequency distribution and represent the collected data for a better understanding.

2. Chi-square analysis has been used to compare the observed data of the primary healthcare services with data expected, so as to obtain figures according to a specific hypothesis formulated in this study.

3. Factor analysis has been applied to split the variables and highlight the major factors in this study.

4. Correlation coefficient analysis has been used to measure the strength of the linear relationship between two attributes of PHCs’ delivery services and community participation.

1.15. Chapterisation of Thesis

The research work is presented in five chapters. The areas covered include: introduction, review of literature, rural healthcare management, healthcare community participation, healthcare international experience, healthcare quality delivery services to the beneficiaries and overall performance of a primary healthcare centre, and suggesting new models and observations.

Chapter-I: Introduction to Rural Healthcare Management

The introduction chapter discusses the need for measuring the performance of rural healthcare management - focusing on primary healthcare concepts, infrastructure development and rural healthcare system explaining the objectives and hypothesis of the study. It also describes the research methodology which consists of data sources, research instruments used and their reliability. A detailed description is given on the sampling method and criteria used for selection of the sample, along with the sample profile.

Chapter-II: Review of Literature

Chapter second focuses on review of literature which presents major findings of the earlier researches: Management Role in primary healthcare centres, Rural healthcare issues and challenges, NRHM delivery and policies, Rural healthcare system in India, Rural Healthcare infrastructure development in India,
Importance of healthcare financing in India, Delivery of public healthcare system in India, PPP model in rural healthcare services in India, Community Participation in rural healthcare, Healthcare community financing and performance and Quality of healthcare services.

**Chapter-III: Rural Healthcare Management – The Conceptual Frame Work**
The conceptual framework of rural healthcare management relating to aspect of performance measurement is presented in chapter three. This chapter also gives an overview on General Management Practices in Rural Healthcare, Evaluating the role of Primary Health Centres in India, Primary Healthcare Management, the Accredited Social Health Activist (ASHA) Programme, Coordination With Community by ASHA, Infrastructure Improvement in Healthcare Centres, Healthcare in India: rural development, healthcare Community Participation, Healthcare Utilisation in Rural Andhra Pradesh (Rajiv Aarogyasri Community Insurance Scheme). This chapter highlights the various parameters that can be used for the primary healthcare centre and community participation performance measurement.

**Chapter-IV: Healthcare Management Delivery Services and Function.**
The fourth chapter discussed about the understanding of the healthcare management, the need for effective management and their perspective and the structure Healthcare services, the monitoring and review system to control the healthcare delivery. This chapter also describes Rural Health Infrastructure, Structure of Health Care Organization in India and Structure of the Health Care Delivery System in Andhra Pradesh

**Chapter-V: An Analysis of Rural Healthcare Management in Andhra Pradesh**
This chapter presented the data analysis the hypotheses framed for the study have been tested using Chi-square, factor analysis and test of hypothesis – correlation coefficient analysis tests techniques and presented in this chapter. The Chapter evaluates the performance of primary healthcare centres based on performance measures specially developed for rural healthcare management, which includes infrastructure development, quality services, providing facility to the
beneficiaries, healthcare community participation and coordination with community healthcare worker by ASHA/VHW.

Chapter-VI: Findings, Conclusion and Suggestions

In the final chapter interpretation from data analysis are consolidated for arriving the findings. Based on these findings conclusion and suggestions are derived. The suggestions for further research have also been outlined.

1.16. Conclusion

In this chapter, the study has attempted to give a brief historic perspective of the way in which the primary health care and rural healthcare system has been developed and how it has been implemented in India. Undoubtedly, health planners in India have shown a keen interest in providing universal access to health care. Turning ideas into actions has been an uphill task almost riddled with problems at every stage, which challenge the country even to this very day. Although India inherited an unevenly balanced system favouring an urban setting, there have been serious attempts to try and rectify this imbalance. The concept of primary health care has been adopted as a model to ensure that at least a basic level of healthcare can be accessed by the people. Certainly not everything has gone according to plan as health indicators show that there are vast differences within the country. Yet, at the same time, some southern states like Kerala and Tamil Nadu have shown remarkably good health indicators, emphasising the fact that if primary health care is properly implemented, it can achieve far better results.

The study is descriptive, causal and analytical in nature and based on the primary and secondary data sources. The hypothesis and objectives have been prepared on the extensive review of literature. The study has collected data from the primary healthcare centre level beneficiaries using a structured questionnaire and open-discussion method. The instruments reliability have been tested and proven to be valid to collect the data from the various sources. The study followed multi-stage sampling method to determine the sample size for the study. At the first level- District, second level- PHCs and at third level- target sample is selected based on the criteria developed for each level. The next chapter describes the review of literature pertaining to the rural healthcare management in general and primary healthcare centre, rural health care centre delivery services and community participation in specific books published by eminent authors across the world.