

**A STUDY ON MANAGEMENT OF RURAL HEALTHCARE  
IN ANHDRA PRADESH**

A thesis submitted to the University of Hyderabad in partial fulfillment for  
The award of the degree of

**DOCTOR OF PHILOSOPHY**

By

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**OCTOBER, 2012**



## **DECLARATION**

I, SREENU NENAVATH, here by declare that the research embodied in the present thesis titled '**A STUDY ON MANAGEMENT OF RURAL HEALTHCARE IN ANDHRA PRADESH**' is bonafide work for the full period prescribed under PhD ordinances of the University.

I also declare to the best of my knowledge that no part of this thesis was earlier submitted for the award of research degree to any university or institution.

Place: Hyderabad

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## **CERTIFICATE**

This is to certify that this thesis entitled '**A STUDY ON MANAGEMENT OF RURAL HEALTHCARE IN ANDHRA PRADESH**' by Mr. SREENU NENAVATH, Research scholar enrolled for Ph.D programme at the School of Management Studies, University of Hyderabad, is the bonafide work done under my supervision and guidance as prescribed under Ph.D ordinances of the University.

This thesis has not been submitted earlier for the award of research degree of any University or Institution.

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## ABBREVIATIONS

ASHA	Accredited Social Health Activist
ANM	Auxiliary Nurse Midwife
BMS	Basic Minimum Services (BMS)
CHCs	Community Healthcare Centres
CHW	Community Health Workers
CGHS	Central government health scheme
CSSR	Center for social services research
DCCP	Disease Control Program
ESIS	Employee state insurance scheme
FRU	First Referral Unit.
GDP	Gross domestic products
HHRC	Health and Hospital Reform Commission.
IPHS	Indian primary healthcare standers
IMF	International Monetary Fund
ICMR	Indian council of medical research
ICDS	Under the Integrated Child Development Scheme (ICDS),
MMU	Mobile Medical Unit (MMU)
MPW	Male Health Worker/ MPW (M)
NRHM	National Rural Healthcare Mission
NFHSS	National Family Health Surveys,
NGOS	Non Government Organizations
NHP	National Health Policy
PHCs	Primary Healthcare Centres
RCH	Reproductive and Child Health.
RHFA	Revitalizing Health for All
RAS	Rajiv Aarogyasri Community Health Insurance Scheme (RAS)
SCHIP	State Children's Health Insurance Program.
SCs	Sub Centres
OECD	Organization for economic co-operation and development
VHW	Volunteer Health Workers
WHO	World Healthcare Organization

## 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 standard IPHS norms as for a

CHC. There are 23458 PHCs functioning in the country as per Rural Health Statistics Bulletin published in July, 20010 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 initiated 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. 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 (Hetzl, 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.**

<b>Principles of PHC</b>	<b>Components of PHC</b>
Equity	Education concerning health problems and Methods.
	Promotion of food supply and proper nutrition
	An adequate supply of safe water and sanitation.
	Maternal and child health care including family planning.
Self reliance	Healthcare services performance
	Providing facilities to the beneficiaries
	Delivery services to the beneficiaries
	Delivery of quality healthcare services
Prevention	Community participation
	Coordination with community by ASHA/VHW
	Appropriate treatment of common diseases and injuries.
	Provision of essential drugs.
	Prevention and control of local endemic diseases.

Source who 1978. (Lafond, 1995)

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 Mitandin 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**

<b>Centers</b>	<b>Plain area</b>	<b>Hill/tribal/difficult area</b>
Sub centers	5000	3000
Primary centers	30000	20000
Community centers	120000	80000

### **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, DeRoock, 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 policies 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.

(2). Second stage sampling (selection of PHCs). 45 PHCs out of 237 PHCs selected. On Simple random basis

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

### **1.14.3. Krejcie & Morgan (1970) Suggested a Method for Selection of Sample Size.**

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:

$$n = \frac{X^2 * N * P * (1-P)}{(ME^2 * (N-1)) + (X^2 * P * (1-P))}$$

Where :

n = sample size

X<sup>2</sup> = 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 ( $30000 \times 15 = 450000$ ) 450000.
5. The study also selected random sampling 45 primary healthcare centres, with a total population covered under the 45 PHCs ( $30000 \times 45 = 1350000$ ) 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.

Population Size	Confidence = 95%				Confidence = 99%			
	Margin of Error				Margin of Error			
	5.0%	3.5%	2.5%	1.0%	5.0%	3.5%	2.5%	1.0%
10	10	10	10	10	10	10	10	10
20	19	20	20	20	19	20	20	20
30	28	29	29	30	29	29	30	30
50	44	47	48	50	47	48	49	50
75	63	69	72	74	67	71	73	75
100	80	89	94	99	87	93	96	99
150	108	126	137	148	122	135	142	149
200	132	160	177	196	154	174	186	198
250	152	190	215	244	182	211	229	246
300	169	217	251	291	207	246	270	295
400	196	265	318	384	250	309	348	391
500	217	306	377	475	285	365	421	485
600	234	340	432	565	315	416	490	579
700	248	370	481	653	341	462	554	672
800	260	396	526	739	363	503	615	763
1,000	278	440	606	906	399	575	727	943
1,200	291	474	674	1067	427	636	827	1119
1,500	306	515	759	1297	460	712	959	1376
2,000	322	563	869	1655	498	808	1141	1785
2,500	333	597	952	1984	524	879	1288	2173
3,500	346	641	1068	2565	558	977	1510	2890
5,000	357	678	1176	3288	586	1066	1734	3842
7,500	365	710	1275	4211	610	1147	1960	5165
10,000	370	727	1332	4899	622	1193	2098	6239
25,000	378	760	1448	6939	646	1285	2399	9972
50,000	381	772	1491	8056	655	1318	2520	12455
75,000	382	776	1506	8514	658	1330	2563	13583
100,000	383	778	1513	8762	659	1336	2585	14227
250,000	384	782	1527	9248	662	1347	2626	15555
500,000	384	783	1532	9423	663	1350	2640	16055
1,000,000	384	783	1534	9512	663	1352	2647	16317
2,500,000	384	784	1536	9567	663	1353	2651	16478
10,000,000	384	784	1536	9594	663	1354	2653	16560
100,000,000	384	784	1537	9603	663	1354	2654	16584
300,000,000	384	784	1537	9603	663	1354	2654	16586

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Note: “N” is population size.

“S” is sample size.

Source: Krejcie, Robert V., Morgan, Daryle W., “Determining Sample Size for Research Activities”, Educational and Psychological Measurement, 1970.

#### 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**

S.NO	Levels of data collection	Respondents	Instrument used
1	PHCs	Beneficiary	Structure Questionnaire

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**

	Beneficiaries
Cronbach's Alpha	0.591
No of items	69
N of cases	110

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**

	Beneficiaries
Cronbach's Alpha	0.728
No of items	66
N of cases	110

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.

## CHAPTER - II

# REVIEW OF LITERATURE

The present chapter examines and reviews the studies conducted by various researchers in the field of rural health-care management and community participation in health-care activities. This chapter discusses issues under various sub-headings to understand the health-care approaches in terms of the rural health-care management flows, performance of health-care services in rural centres, providing facilities to the beneficiaries, improvement in health-care infrastructure, delivery services to the beneficiaries, community participation programmes and delivery of quality health-care services in the rural healthcare sector. These areas are covered under two sections, viz., (i) national experiences of rural health-care management, and (ii) international experiences in rural health-care management

### **2. 1. National Experiences**

**2. 1.1. Management role in primary healthcare centres. Some of the recent studies in this area are discussed in the succeeding paragraphs.**

**Dileep v. Mavalankar (2008).** This study explores the primary health-care system in India. This study is very large and covers almost all the parts of the country. It has more than 20,000 PHCs and 140,000 sub-centres spread in more than 400 districts. This system consumes a large amount of resources and provides the services for primary care including the preventive programme. The system is mainly managed by doctors, some of whom have brief public health training. This study argues that, given the lack of training of doctors in management. It is imperative that the doctors who are put in charge of the PHC system receive reasonable skills and training in management so that the resources spent on the PHC system can be utilised well - in an efficient and effective manner. Unfortunately, the experience so far has been that there is hardly any systematic effort on an adequate scale to meet the training needs of the PHCS system for management training. The efforts done so far, even under the international supported projects, are too less and of poor quality. It is also observed that most of the management training is very divorced from the day-to-day realities of the working of the PHC system

and the kind of challenges they face. Finally, the study argues that substantial efforts will be needed to be put in preparing doctors for the management posts in the PHC system. This will require large investments in training and linking training to practice in the field. **Haines; R. Horton and Z. Bhutta (2007).** This brings out the vision of primary health-care (PHC) in the Alma Ata declaration and highlights some of the management concepts between this and the selective approach to PHC, which promotes a few cost-effective interventions. The study explains that, despite movements towards selective packages of health-care and health-care reforms, the idea of PHC, as described in the Alma Ata declaration, is attracting renewed interest. There are several reasons for this. Shortages in health workers, especially in developing country or states, have showed renewed interest in the role of community-health workers. The study also highlights the growing research evidence about the cost-effectiveness of some components of PHC, such as the role of community participation improving neonatal and maternal mortality in India. PHC is also better able to address pervasive health inequalities, poor coverage of basic health-care, and lack of engagement by communities in health systems.

**H.M Swami and Vikas Bhatia (2005).** This study examines the primary health-care system over the decade, the achievements made in the country through implementation of primary health-care delivery system has resulted in longevity of life. Today, India has 70 million elderly populations over 60 years of age. However, the current health policies and programmes do not address significantly to raise their health status to the desired level, if the existing primary healthcare infrastructure in form of manpower and health centres are utilized. With some training to health-care providers, the health-care status of the elderly can be improved.

Initiation of the primary healthcare programme in India. The major thrust has been on improving the health status of children and women. Almost all the national programmes have been implemented either to control tropical diseases or are concerning maternal and child health besides family welfare. Over the years, the country has made substantial gains in not only improving health indicators, but also developed an extensive network of health-care delivery system throughout the country.

**Amlan Majumder v. Upadhyay (2004):** This study focuses on the analysis of the primary health-care system in India with focus on reproductive health-care services.

The health-care system in India, at present, has a three-tier structure to provide health-care services to its people. The primary health-care 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: (i) sub centre (SC), (ii) primary health centre (PHCS), and (iii) 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 system. India is a signatory to the Alma Ata declaration of 1978 and expressed its commitment 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 from many different fields. The present study attempts to reveal the true condition of the system by examining the relationship between efforts and accomplishments in primary health-care

**Nirupam Bajpai and Sangeeta Goyal (2004).** This study brings out that. India's achievements in the field of health-care have been less than satisfactory and the burden of disease among the Indian population remains high. Infant and child mortality and morbidity and maternal mortality and morbidity affect millions of children and women. Yet, health-care is inadequate in terms of coverage of the population, especially in rural areas, and grossly underutilised because of the dismal quality of health-care provided. In most public health centres which provide primary health-care services, drugs and equipments are missing or in short supply, there is shortage of staff and the system is characterised by endemic absenteeism on the part of medical personnel due to lack of oversight and control. As a result, most people in India, even the poor, choose expensive health-care services provided by the largely unregulated private sector. Not only do the poor face the double burden of poverty and ill-health, the financial burden of ill health can push even those on the brink of poverty into poverty. Public investment in health, and in particular in primary health-care, needs to be much higher to achieve health targets, to reduce poverty and to raise the rate of economic growth. Moreover, the health system

needs to be reformed to ensure efficient and effective delivery of good quality health services.

**Helen Keleher, (2001).** This study discusses why primary health-care offers a more comprehensive approach for tackling health inequities than primary care. The study attempts to focus more intently on how to deal with alarming measures of health disadvantage and inequities. Simultaneously, in the study about this area, whether intended or not, primary health-care and primary care are terms that are increasingly interchanged. This study argues that this slippage in language is counter-productive. First, because it disguises the transformative potential of strategies and approaches that can make the fundamental changes necessary to improve health status and secondly because the structures and practices of primary care sector are not necessarily compatible with notions of comprehensive primary health-care. There is much to be lost if primary health-care and health promotion are disguised as primary care, and not understood for their capacity to make a difference to health inequities although of course, comprehensive primary health-care is interdependent with services provided by primary care.

**Madhurim Nudni (2000).** This study examines the primary health-care scenario in India: review of policy, plan and committee reports the Alma Ata declaration of 1978 gave an insight into the understanding of primary health-care. It viewed health as an integral part of the socioeconomic development of a country. It provided the most holistic understanding to health and the framework that states needed to pursue to achieve the goals of development. The declaration recommended that primary health-care should include at least: education concerning prevailing health problems and methods of identifying, preventing and controlling them; promotion of food supply and proper nutrition, and adequate supply of safe water and basic sanitation; maternal and child health-care, including family planning; immunization against major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; promotion of mental health and provision of essential drugs. It emphasized the need for strong first-level care with strong secondary- and tertiary-level care linked to it. It called for an integration of preventive, promotive, curative and rehabilitative health services that had to be made accessible and available to the people, and this was to be guided by the principles of universality, comprehensiveness and

equity. In one sense, primary health-care reasserted the role and responsibilities of the state, and recognized that health is influenced by a multitude of factors and not just the health services. It also recognized the need for a multi-sectoral approach to health and clearly stated that primary health-care had to be linked to other sectors.

**Imrana Qadeer (1999).** Though India signed the Alma Ata declaration in 1978 and pledged its implementation, the Sixth Five Year Plan made no mention of it. The programme of immunisation and later the child survival strategies were promoted, and selective PHCS silently became a part of health sector planning” balance, reach out to the majority, build basic infrastructure, and contextualize health within social and economic development (government of India 1980). The other, more pragmatic, pushing selective PHCS and population control strategies in the name of primary health-care. The question that is posed is: does the World Bank’s strategy tend to promote the latter?

## **2. 1.2. Rural Healthcare Issues and Challenges**

**B. S. Ghuman & Akshat Mehta (2009).** This study examines the problems and prospects of health-care services in India. India as a nation has been growing economically at a rapid pace particularly after the advent of new economic policy of 1991. However, this rapid economic development has not been accompanied by social development - particularly in the health sector. Health sector has been accorded very low priority in terms of allocation of resources. Public expenditure on health is less than 1 per cent of GDP in India. It has further witnessed a decline during the post economic liberalisation period. The resource allocation to the health sector has adversely affected both access and quality of health services. The unequal access to health services is reported across strata, gender and location (i.e., urban and rural areas). With a view to improve access and quality of health services, government should enhance public spending on health sector in the vicinity of 3 per cent of the GDP. A principal objective of this study is to examine the access of health services across economic strata, gender and space; to examine the quality of health services in India; and to suggest appropriate recommendations to revamp health policy and institutional mechanisms to improve access and quality of health services particularly for the excluded segments of society.

**Healthcare System 2020 Report (2008).** The study identifies healthcare issues and challenges and reviews some experience with interventions to improve health

delivery. Interventions aimed to: improve the policy process in the health sector by promoting more effective stakeholder engagement, enhancing participation at a variety of levels to promote more effective delivery of health programmes, and improving accountability and transparency in the health sector. The study concludes that good health-care delivery emerges from the actions and linkages among the state, providers of health-care services and citizens. Health-care delivery improvements through their impacts on rules, roles, responsibilities and institutions – affect the availability, quality, distribution and utilisation of health services. Efforts to increase the quality of health-care governance constitute worthwhile and effective undertakings for improving health systems functioning and for increasing the provision and utilisation of health services

**Medical and Public Health Report (2008)** . According to the study, the main objective of the state is to actively promote the welfare of the people by extending promotive, preventive, curative and rehabilitative health-care services. To achieve the objective, the state has taken steps to improve the health-care delivery system so that it can reach the poorest section of the society by construction of buildings to provide more beds, provision of sophisticated equipments, providing specialised services, enhancing the strength of the medical, as well as paramedical, personnel and by improving the quality of services rendered. The important objectives of the health and family welfare sector are as follows:

- 1) To provide effective tertiary care to all sections of the public by making available the modern medical techniques and technologies in government teaching hospitals
- 2) To provide research relevant to human development and quality of life
- 3) To increase the access and utilization of health services, particularly among the unreached and underserved population
- 4) To design and implement the effective interventions in the area of maternal and child health to reduce IMR and MMR to the expected levels
- 5) To implement schemes for prevention and control of communicable diseases and non-communicable diseases with special focus on newly emerging vector borne diseases and life style diseases

- 6) To create awareness and to ensure timely availability of accident and trauma care services to reduce morbidity and mortality.

**Rygh EM, Hjortdahl P (2007).** The study explains the possible ways to improve health-care services in rural areas. While there is abundant literature on making health-care programmes integrated, interdisciplinary and managed in order to reduce fragmentation and improve continuity and coordination of care, only some part of this relates to rural issues. An added challenge is the lack of a generally accepted international definition of rurality, which makes it difficult to generalise from one region to another, and to develop an evidence-based understanding of rural health-care. In evaluating the study it was found that the development of new forms of interaction is particularly relevant in rural regions - such as interdisciplinary and team-based work with flexibility of roles and responsibilities, delegation of tasks and cultural adjustments. In addition, programmes such as integrated and managed care pathways, outreach programmes, shared care and telemedicine were relevant initiatives. These may be associated with greater equity in access to care, and more coherent services with greater continuity, but they are not necessarily linked to reduced costs; they may, in some cases, entail additional expenses. Such endeavours are to a large extent, dependent on a well functioning primary health-care system as a base.

**T. Jamison, & Ramanan Laxminarayan (2007).** This study explains the national rural healthcare mission in response to the challenge of sustaining the rural health-care gains in the better-performing states and ensuring that lagging states catch up with the rest of the country, the Indian government has launched the National Rural Health Mission (NRHM). The study explains the current status and future prospects of health financing in India in the light of the NRHM, whose objective is to draw attention to the benefits of public health spending, explore reasons why public spending has been much more effective at improving health outcomes in some regions but not in others, and to apply lessons learnt from the disease control priorities project-India or DCPPI-India to the question of how best to deploy the new financial resources made available by the NRHM. The approaches of NRHM take in this study. One can consider health systems to have two broad objectives – to improve the level (and distribution) of health outcomes and to provide financial protection to the population, both from unanticipated large health

expenditures and from income loss. Similarly, as a first approximation, one can consider health systems to have two types of resources at their disposal – financial and system capacity.

**Papiya Mazumdar (2006).** This study, summarising the issue of rural health-care, has placed greater significance in the developing world, mainly due to changing role of the state in providing health-care. This study examines the levels, trends and patterns of public expenditure on health during 1995 to 2006 in India, both at the national and state levels. The study finds that public expenditure on health, as a proportion of GDP, has remained stagnant over the years, with revenue expenditure accounting for the larger share. Among the states, the relatively poor ones were found to be spending more on health, both per capita and as a proportion of GDP, compared to the richer states. It was seen that expenditure on health by the state had not grown adequately along the path of overall economic prosperity, and private out-of-pocket expenditure seemed to be on the rise. The study cites a few alternative health financing strategies based on recent initiatives across the country, which needs to be reviewed with true intent, aiming at equitable, unbiased and universal access to health-care in the years to come.

**George R. Mcdowell (2005).** The findings of the study on the rural health-care underserved by” national association of community health centres” provides some insights into the character and problem of health-care and access to health-care in rural India. To determine the number of underserved India, an index was created that included poor performance in health status, limited access to primary care physicians, or socioeconomic characteristics. The citizens in the communities in the lowest quartile were then considered to be underserved. The majority of the countries designated as underserved (73 percent), were so designated because of depressed health status rather than access to physicians. In predominantly rural countries, access to physicians was much more significant in determining under service than in urban countries, although more than two-thirds of all rural counties were determined to be underserved by reason of depressed health status alone. There was, indeed, considerable variation in regions of the country in the determinants of medical under service. This suggests that the approaches to ameliorate problems in rural health-care will vary from community to community or state to state.

**Kay A. Johnson (2006).** This study looks at rural health-care policy and finance barriers, reduced access to preconception care and, reportedly, limited professional practice changes that would improve the availability of needed services. This study reviews barriers and opportunities for rural health-care financing preconception care, based on a review and analysis of state and federal policies. This study describes the states' experiences with and opportunities to improve rural health-care coverage, through public programmes such as medicaid, medicaid waivers, and the State Children's Health Insurance Programme (SCHIP). The role of community health centres in providing primary and preventive care to women is also discussed. In these and other public health and health coverage programmes, opportunities exist for rural health-care finance and preconception care for women belonging to the low-income groups. Three major policy directions are discussed. To increase access to preconception care among women of childbearing age, the federal and state governments have opportunities to: (i) improve health-care coverage, (ii) increase the supply of publicly subsidized health clinics, and (iii) direct delivery of preconception screening and interventions in the context of public health programmes.

**Purendra Prasad (2000).** This study depicts the image of health-care related problems of the rural poor in Gujarat. The study shows that most rural poor have problems in accessing health-care services, not because they lack trust on biomedicine as is commonly perceived, but because of the failure of the state to figure out the social spaces in health-care policies. The corresponding findings of a study of the leptospirosis epidemic in Gujarat show that the speedy supply of drugs, opening of special wards in the hospitals, increased allocation of equipment, doctors, health workers, during the 1997-99 epidemics was less significant to save lives.

### **2.1.3. NRHM Policies and Approach**

**Srabanti Mukherjee (2010).** According to the study, identifying the relevance of good health of its citizens, in the course of economic and social advancement and elevating the quality of life of our rural citizens, the Government of India has initiated the National Rural Health Mission (NRHM) to carry out crucial correction in our basic health-care delivery network in the rural expanses. The aim of the mission is to perk up the availability of and access to improved health-care facilities by people residing in rural

areas, especially the vulnerable section, viz., the poor, women and children. This study attempts to analyse the effectiveness of NRHM in terms of each of these goals and also overall effectiveness of the mission. 100 rural doctors from the expanse of India, Odisha, Assam, Jharkhand and Chhattisgarh has been interviewed with 10 different small sets of questionnaire based on nine major goals of NRHM for the purpose. Finally these 10 sets were integrated and regressed to find out the effectiveness of the scheme. The study concludes that NRHM has created a very moderate momentum in improving the rural health-care framework. However, due to the inefficiencies in terms of infrastructure, health manpower, implementation of Ayush, lack of penetration of health insurance; it cannot be concluded to be 100% effective.

**NRHM A.P Govt Ministry Report (2008).** The Government of Andhra Pradesh launched the National Rural Healthcare Mission (NRHM) in April 2005. While Andhra Pradesh needs to spend an additional Rs. 17 billion to scale up the rural primary healthcare services, but is not providing quality health-care due to lack of allocation of funding as well as certain management problems. On a per capita expenditure basis, Kerala holds the top ranking and Punjab also has good health-care indices. The lowest ranking is for Bihar. The ranking for Andhra Pradesh is 12, despite the relatively higher expenditure. While funds are, no doubt, needed to improve healthcare and healthcare indices awareness, equitable distribution and utilization of services is equally critical for the improvement of healthcare indices. Kerala is high in two important dimension equitable spending between income group and efficiency of the use of resource. The implications of scaling up health services in rural areas of these two states, as given by NRHM estimates, are: Andhra Pradesh needed to step up its allocation by almost 44% over 2006-07 in 2008-09, whereas Kerala was required to step these up by 52%. Since these increases are not over one year, but two years, they are impossible to achieve though it is a challenging task.

**S K Satpathy and S Venkatesh (2006).** This study discusses the National Rural Health Mission (NRHM), an ambitious strategy of the government. It aims to restructure the delivery mechanism for rural health-care towards providing universal access to equitable, affordable and quality health-care that is accountable and responsive to the people's needs, reducing child and maternal deaths as well as stabilising population, and

ensuring gender and demographic balance. The mission is an articulation of the government's commitment to raise public spending on health from 0.9% of India's gross domestic product (GDP) to 2.3% of GDP and aims to undertake architectural correction of the health system. The mission will enable the system to effectively handle increased allocation and promote policies that strengthen public health management and service delivery in the country. Wide ranging stakeholder consultations were held over a six-month period with state governments, the Planning Commission, the National Advisory Council, other government ministries/departments, health professionals and nongovernmental organisations (NGOs) to draw up the mission strategy.

**Sucha Singh Gill & Ranjit Singh Ghuman (2005).** The authors identified the need for prioritising rural health-care particularly from the preventive aspect. This study examines the effectiveness of NRHM, in terms of reach and social marketing initiatives in rural areas, for redressing the growing disparity in health-care facilities between rural and urban Punjab. The study shows that rural health is low down in the priority list of Punjab. It has been mentioned in the study that successive governments have made no concerted effort to rejuvenate the health sector in the rural areas, resulting in deterioration in health services and poor health of the people. This is perhaps because the rural society is unorganised /non-unionised. Hence, the study advocates that necessary treatment plants should be established in the proximity of the towns and cities, cost of which must be borne by the users of these services. The study concludes that, to improve the health services in the rural areas, the village community (through panchayat raj institutions) needs to be involved in the supervision and functioning of the whole system to make it accountable to the users. However, the study does not provide any analytical insight regarding how to implement such system.

**Ramesh Bhat & Somen Saha (2004).** The authors have found a remarkable deviation in the Union Budget, 2004-05, from the preceding budgets in regard to its specific focus on the social sector. The major thrust area in implementing the recommendation in the National Health Policy (NHP) relates to the reforming the existing institutional health-care delivery system. It is evident from various studies in this regard that the reasons behind the malfunctioning of the prevailing government health-care set up are perhaps its enormous unplanned expansion without giving due

consideration to developing appropriate management structures to handle a large number of employees. Miscorrelated fragmentation of the health-care delivery system without any mechanism of coordination and information sharing across departments and various offices involved in implementing the programmes, the structure bear a resemblance to broken hierarchy without any one assuming responsibility of performance or management of key resources. As the study brings out, the system really has remained immature in terms of efficiency in management systems, namely, the financial, personnel, logistics, etc., to implement programmes effectively and with greater degree of transparency.

**Arvind Pandey, Nandini Roy, D Sahu, Rajib Acharya (2004).** The authors have correlated the utilisation of antenatal care services and assistance received during delivery in the states of Chhattisgarh, Jharkhand and Uttarakhand. Which are characterised by distinct geographical and topographical features. The study focuses on the particular features of the three states. The study concludes that it is necessary for the reproductive and child health programme to visualize a dynamic strategy, giving due consideration to the geographical and socio-economic factors. Hence, it may be said that the issues of availability, accessibility, acceptability, affordability and appropriateness with regard to health-care still persist as disquieting factors. The one and only way out from this problem is to craft the public health system in such a way that it becomes accountable, inexpensive and available by superior management of resources and community initiatives. In this context, the Government of India launched the National Rural Health Mission on 12th April, 2005 across the length and breadth of the country. The major objectives or national rural health mission was to ensure the following:

- a. Development of infrastructure of state governments
- b. Availability of critical manpower
- c. Reach of mobile medical vans
- d. Mainstreaming ayush (the homeopathic and ayurvedic doctors)
- e. Coordination with the community by ASHA (trained female community health activist 'ASHA' or accredited social health activist. Selected from the village itself and accountable to it, the ASHA will be trained to work as an interface between the community and the public health system).

- f. Implementation of public private partnership
- g. Inter-sectoral coordination
- h. Appropriateness of expenditure planning
- i. Penetration of health insurance

**David H Peters, K Sujatha Rao and Robert Fryatt (2003):** The authors bring out that India's health system was designed in a different era, when expectations of the public and private sectors were quite different. India's population is also undergoing transitions in the demographic, epidemiologic and social aspects of health. Disparities in life expectancy, disease, access to health-care and protection from financial risks have increased. These factors are challenging the health system to respond in new ways. They argue that the content of national health policy needs to be more diverse and accommodating to specific states and districts. More 'splitting' of India's health policy at the state level would better address their health problems, and would open the way to innovation and local accountability. States would be able to develop policies to deal with the periodic outbreak of non-communicable diseases and more appropriate health financing systems. The central government needs to focus on overcoming the large inequalities in health outcomes across India, tackle growing challenges to health such as epidemics, and provide the much needed leadership on systemic issues such as the development of systems for quality assurance and regulation of the private sector.

**National Health Accounts Report (2001-02):** This report brings out the variations in health spending per capita across states. Kerala has the highest annual per capita spending on health, followed by Haryana, Punjab, and Himachal Pradesh. At the other end, Assam, Odisha, and Rajasthan have the lowest levels of health expenditure per capita of the share of private spending in total health spending across states. With the exception of Sikkim, private spending accounts for the major portion of health spending in every state. This suggests that there is no systematic pattern in the ratio of public expenditure on health to gross state domestic product. Public expenditure on health is low in relation to state income in relatively affluent states like Haryana and Gujarat as well as in a poor state like Uttar Pradesh. It is important to focus on a smaller subset of interventions that can be financed by the government and scaled up effectively for several reasons. It has been seen that much of the impact of public spending on health can be

attributed to a handful of high-impact interventions, such as childhood Immunisations. A similar set of health conditions can significantly impact the health status of the citizens.. Formulating a simple package can be more effective than paying for a large range of health interventions without regard to joint costs or shared use of inputs. These minimum packages have other advantages, like simplifying the planning of new investments in buildings and manpower. Rural healthcare should focus on interventions that generate maximum levels of health gain and financial protection. Target interventions should address disease conditions that are major sources of under-five mortality and burden from infectious diseases,

#### **2.1.4. Rural Healthcare System in India**

**Kapil Yadav, Prashant Jarhyan, Vivek Gupta and Chandrakant S Pandav (2009).** In this study, the authors state that the rural healthcare system of India is plagued by issues like severe resource crunch and underdevelopment of infrastructure - leading to deficient health-care for a large number of its citizens. The differences in urban-rural health indicators are a harsh reality even today; infant mortality rate is 62 per thousand live births for rural areas as compared to 39 per thousand live births for urban areas (2007). Only 31.9% of all government hospital beds are available in rural areas as compared to 68.1% for urban population. When the rural-urban distribution of population in India is considered, this difference becomes huge. Based on the current statistics provided by the government of India, the study have calculated that at the national level, the current bed-population ratio for government hospital beds for urban areas (1.1 beds/1000 population) is almost five times the ratio in rural areas (0.2 beds/1000 population). Apart from this shortfall in infrastructure, shortfall in trained medical practitioners willing to work in rural areas is also one of the factors responsible for poor health-care delivery systems in rural areas. There is a shortfall of 8% doctors in Primary Health Centres (PHCs), 65% for specialists at Community Health Centres (CHCs), 55.3% for health workers (male), 12.6% for health workers (female). This shortfall in human resources in rural areas is only going to increase in future, more so with corporatization and privatization of health systems. The rural population of India still does not get the basic quality of primary health-care as stated in Alma-Ata conference attended by governments of 134 countries and many voluntary organisations in 1978. “Primary

health-care is essential health-care made universally accessible to individuals and acceptable to them, through their full participation and at a cost the community and country can afford”.

**Ramani KV & Dileep Mavalankar (2005).** The authors have described the status of Indian health system. The study identifies that the critical areas of management concerns in Indian health-care system are mainly due to factors like non-availability of staff, weak referral system, poor service delivery, financial shortfalls and lack of accountability of quality of care.

**Maheshwari & Bhat (2004).** The authors have examined the revival strategy of a hospital, which is a division of commercial house and challenged with tough times. The case study is endowed with some interesting insights of reviving corporate hospitals in challenging times. The study can be useful in the context of the government hospitals too as the assertion of the study is that the government hospitals have resemblance with the corporate hospitals dedicated to its employees. It is claimed in the study that, similar to the dedicated corporate hospitals, the government facilities are required to provide free care or highly subsidised care to its users and are largely dependent on the financial allocations from government. Both dedicated corporate hospitals and government facilities depend on budget allocations, which subsequently depend on good financial health of the commercial houses and good fiscal position of government respectively.

**Dileep Mavalankar, KV Ramani, Jane Shaw (2004).** The authors have described some threats to the management of reproductive health programmes in India. It is stated in the study that the reasons behind the failures in the management of reproductive health services are both complicated and multi-faceted and therefore, not possible to be successfully addressed through health system reform. Hence, it is imperative to identify which failures in service are attributable to specific causes and which could be altered by reform in the normal reform procedure of the health system. In this paper, it has been suggested to ascertain concrete steps to expedite the reforms in the health system to facilitate the improvement of reproductive health services in India.

**Brijesh C Purohit (2001).** This study has summarised the impact of structural adjustment in the Indian rural healthcare sector has been felt in the reduction in central grants to states for public health and disease control programmes. This falling share of

central grants has had a more pronounced impact on the poorer states, which have found it more difficult to raise local resources to compensate for this loss of revenue. With the continued pace of reforms, the likelihood of increasing state expenditure on the health-care sector is limited in the future. As a result, a number of notable trends are appearing in the Indian health-care sector. The policy responses to these private initiatives are reflected in measures comprising strategies to attract private sector participation and management inputs into primary Health-Care Centres (PHCs), privatisation or semi-privatisation of public health facilities such as non-clinical services in public hospitals, innovating ways to finance public health facilities through non budgetary measures, and tax incentives by the state governments to encourage private sector investment in the health sector. Bearing in mind the vital importance of such market forces and policy responses in shaping the future health-care scenario in India, this study examines in detail both these aspects and their implications for the Indian health-care sector. The analysis indicates that, despite the promising newly emerging atmosphere, there are limits to market forces. Hence, appropriate refinement in the role of government should be attempted to avoid undesirable consequences of rising costs, increasing inequity and consumer exploitation.

**Poornima Vyasulu and V.Vijayalakkshmi (2001).** The authors have discussed the reproductive health services and role of panchayats in Karnataka the reproductive health-care services available to women in rural areas in the state, and the various factors influencing them. Based on survey data on the status of Primary Health Centres (PHCs), and the availability of maternal health services, they have analysed the status of reproductive health services, their access and reach. This study also examines the role of panchayati raj institutions (institutions of rural local government) in providing these services. Three sets of explanatory variables are used to examine maternal health-care seeking viz. institutional structure quality of services; and social factors. The findings indicate that the resources available for health-care are meager, particularly for Reproductive and Child Health (RCH) in rural areas. The primary source of funding for RCH is largely central government grants. Inadequate devolution of funds, functions, and functionaries contributed to panchayats not taking any significant initiatives to improve maternal health-care.

**Government of India, (1999).** The study reveals that utilisation of services depends on a number of factors. Planning Commission (Government of India, 1999) evaluated the functioning of the CHCs, taking into account the availability and accessibility factors (area coverage of a CHCs, total number of doctors in a CHC, per cent of specialists present in CHCs, mean distance of PHCs from the CHCs). It has explained 71 per cent of variation in utilisation of services by these variables. The study did not consider factors related to family characteristics and social structure.

**Sodani 1997, 1999.** The author has estimated demand functions for health-care for the state of Rajasthan. Though he has taken into account 11 independent variables (age, education, time gap, duration of illness episode, number of visits, distance, income, number of rooms, family size, highest level of education among males and highest level of education among females), the author has not included availability factors. After the international conference on population and development in 1994 (ICPD) at Cairo, the quality of care is coming to be acknowledged as equal in importance with access to reproductive health services. Delivering successful care involves respect for the individual needs and rights of the clients, and useful service from the staff in hygienic conditions (UNFPA, 1994, 1995). This review has not revealed any study on Indian family planning incorporating primary health-care system to address the issue of quality of care. This study attempts to include variables from all the categories: availability, accessibility, family characteristics, social structure and quality of care.

**Peter A. Berman (1998).** The study brings out that most developing countries have pursued formal health-care system strategies which give primacy to government roles in financing and delivering health services. Despite decades of plans and investments based on this norm, the actual health-care systems in many countries are quite different than what was intended or desired. Yet, policies and plans continue to emphasise a statistic approach. This study argues that, given the current situation in many countries, this long-term strategy to develop a “national health service” type model of health-care provision is misguided and wasteful. The current and potential role of non-governmental health-care providers in achieving high levels of access to basic services is highlighted, using data from an extensive analysis of health-care financing and delivery in India. Major problems, related to quality of care and the financial burden of

unregulated fee-for-service medicines, are also documented. India and many other countries need to rethink their health-care system development strategies and build upon the opportunities offered by the already extensive non-government health-care sector, rather than to view non-government services simply as a constraint to successful public programmes.

**Das & Hammer, (2007).** The authors have stated that within the broader context of public service delivery, health-care has several special features. More so than any other public good, health-care has the characteristics of a “credence” good, where neither pre-consumption search nor actual experience is sufficient to reveal the quality of the service provided to the recipient. This property implies that market provision is subject to severe potential problems associated with asymmetries of information.<sup>1</sup> A related issue is the complexity of health-care, which makes information exchange and the establishment of reputations more difficult. Hence, private and public provision of health-care are both likely to be beset with inefficiencies and quality problems. Indeed, there is evidence of these problems even for well-off urban consumers in India

**Planning Commission Report (2006).** The elaborate institutional structure of development planning, including public health services, has not been able to deliver good outcomes for the rural populations of India that need it most. In the introduction, a 2001 document from the Planning Commission was quoted, noting the lack of accountability, leading to pervasive absenteeism and low effort, and offering decentralisation as a solution. Five years later (Planning Commission, 2006), however, the same problems were highlighted once more: “rural health-care in most states is marked by absenteeism of doctors/health providers, low levels of skills, shortage of medicines, inadequate supervision/monitoring, and callous attitudes. There are neither rewards for service providers nor punishments to defaulters.” The government’s own analysis identified a failure to decentralise enough as the reason for lack of improved health outcomes, “the 10th Plan aimed at providing essential primary health-care, particularly to the underprivileged and underserved segments of our population. It also sought to devolve responsibilities and funds for health-care to PRI. However, progress towards these objectives has been slow and the 10th Plan targets have been missed”

### **2.1.5. Healthcare infrastructure development in India**

**Boston Analytics Reports (2009).** This study brings out that even though healthcare system in India reports explore although India's healthcare system has gradually improved in the last few decades, it continues to lag behind those of its neighboring countries.. Despite a steady increase in the number of medical establishments in the country, there still remains a severe shortage of sub-centres, primary health centres, and community health centres. Lack of adequate health-care is also reflected in the low density of health-care personnel. The public health-care delivery system consists of a large number and a variety of institutions dispensaries, primary health-care institutions, small hospitals providing specialist services, large hospitals providing tertiary care, medical colleges, paramedic training schools, laboratories, etc. Despite the size and reach of the public health-care system, however, India scores poorly on most health care indices.

**Infrastructure Reports (2007).** This study examines the rural health-care services infrastructure, which includes the physical facilities, personnel, administrative systems, and financial investments needed to deliver essential health services. Primary health-care services represent a crucial entry point into the health-care system. The adjusted primary care staffing Ratio the ratio of population to full-time equivalent (FTE) primary care physicians in direct service provides an index of the availability of primary care. State's health-care services infrastructure delivers acute, primary, specialty, and long-term care. Infrastructure allows, but does not guarantee, access to services. It currently faces pressures from growing demand, the gap between rising costs and flat or declining revenue, and increasing numbers of uninsured patients. The data has been collected from National Rural Health-Care Mission

**Umesh Kapil Panna Choudhury (2005)** the study explores the health-care infrastructure in India. The country has created a vast public health infrastructure of sub-centres, Public Health Centres (PHCs) and Community Health Centres (CHCs). There is also a large cadre of health-care providers (auxiliary nurse midwives, male health workers, lady health visitors and male health assistants). Yet, this vast infrastructure is able to cater to only 20% of the population, while 80% of healthcare needs are still being provided by the private sector. Rural India is suffering from a long-standing health-care

problem. The study explains that only one trained health-care provider, including a doctor with any degree, is available per every 16 villages. Although, more than 70% of its population lives in rural areas, but only 20% of the total hospital beds are located in rural areas. In this review of the above issues, it seeks to provide effective health-care to the rural population throughout the country. The NRHM will cover all the villages in these states through approximately 2.5 lakh village-based “accredited social health activists” (ASHA) who would act as a link between the health centres and the villagers. One will be ASHA raised from every village or cluster of villages.

**Dr. P. Murugesan, (2004).** The main objective of this study is to examine the trends and levels of the health system in India over a period of time. At the primary health-care level, health and socio-economic development are so closely intertwined that is impossible to achieve one without the other. While the economic development in India has been gaining momentum over the last decade, our health system is at the crossroads today. Even though government initiatives in public health have recorded some noteworthy successes over time, building health systems that are responsive to community needs, particularly for the poor, requires politically difficult and administratively demanding choices. Health is a priority goal in its own right, as well as a central input into economic development and poverty reduction. Health sector is complex with multiple goals, multiple products, and different beneficiaries. India is well placed now to develop a uniquely Indian set of health sector reforms to enable the health system to meet the increasing expectations of its users and staff. Managerial challenges are many to ensure availability, access, affordability, and equity in delivering health services to meet the community needs efficiently and effectively. In this study, we describe the status of our health system, suggest a few health measures of maternal health indicators provided by three rounds of National Family Health Surveys (NFHSs), and conclude by identifying the roles and responsibilities of various stakeholders for building health systems that are responsive to the community needs, particularly for the poor.

**Deepak Bhandari (2002).** According to the author, the state governments in the country have the necessary funds to invest in infrastructure development of secondary or tertiary level rural health-care hospitals. Some states have received loans/grants from the World Bank (state health system development projects in A.P, Karnataka, Maharashtra,

Odisha, Punjab, U.P, Uttarakhand and West Bengal) to improve secondary level facilities. These improved facilities also tend to break down rapidly in the absence of an adequately funded maintenance system and poor management systems. Public awareness of and expectations from health services provided by the government are rising rapidly. This is to an extent fuelled by the rapidly escalating cost of medical care provided by the private sector providers who constantly raise-the bar on the range and quality of health-care services available in the country. The National Health Policy, 2002 states: “since 1983, the country has been seeing increase in mortality through ‘life-style’ diseases- diabetes, cancer and cardiovascular disease. The increase in the life expectancy has increased the requirement for care. Similarly, the increasing burden of trauma cases is also a significant public health problem”. There are little or no resources with the government to invest in facilities to take care of the increasing burden of these emerging diseases. It is estimated that, given the present state of economic health of state governments and the increasing deficit in national budgets, in the next ten years, the cost of caring for diabetic patients alone would cripple our economy.

#### **2.1.6. Importance of Rural Healthcare Financing**

**Julian Schweitzer (2008).** This study views the public healthcare finance and decentralization as central to resolving India’s systemic public health crisis. However, some states and districts have achieved success despite serious financial and administrative constraints. This suggests that factors such as political commitment, community participation, human resource management, women's empowerment, and governance may be as are more important. The success of the national rural health mission will depend on state and local institutional capacity, including strong partnerships with civil society organisations and private-sector actors. Increased resources and decentralization will not be sufficient by themselves. An examination of the failing districts will most likely reveal some systemic failures in developing the institutions and systems needed to ensure delivery of an integrated package of health services. These might include weak and inconsistent political commitment to improved services and better health outcomes for the poor; weak and divided community participation; poor hiring, management, deployment, and incentive systems for mid-level health workers and doctors. This would suggest that the success of the national rural

healthcare mission will depend crucially on developing state and local institutional capacity, including strong partnerships with civil society organisations and private-sector actors. Additional money may be a necessary condition for success, but it will not be a sufficient condition if political commitment, governance, and administration are weak.

**Ravi Duggal (2007).** The author posits that the way in which healthcare is financed is critical for equity in access to health-care. At present, the proportion of public health-care resources committed to health-care in India is one of the lowest in the world, with less than one-fifth of health expenditure being publicly financed. India has large-scale poverty. Yet, the main source of financing health-care is out-of-pocket expenditure. This is a cause of the huge inequities we see in access to health-care. The paper argues for strengthening public investment and expenditure in the health sector and suggests possible options for doing this. It also calls for a reform of the existing health-care system by restructuring it to create a universal access mechanism which also factors in the private health sector. The paper concludes that it is important to over-emphasize the fact that health is a public or social good and so cannot be left to the vagaries of the market.

**Anil B. Deolalikar and T. Jamison, (2007).** This study examines the current status and future prospects of rural health financing in India in the light of the rural health-care. Much has been written on this issue and the authors' contribution has been to synthesise what is known in the context of rural health-care. Our objective is to draw attention to the benefits of public health spending, explore reasons why public spending has been much more effective at improving health outcomes in some regions but not in others, and to apply the lessons learnt from the disease control priorities project-India to the question of how best to deploy the new financial resources made available to the rural health-care, given the large health and institutional disparities between group and non-group states, the financing challenges are quite different in the two groups. In states such as Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh, and Odisha, which together account for 45 percent of India's population, the health challenge lies primarily in the high levels of infant and child mortality and child malnutrition. In contrast, in non-group states such as Kerala, Tamil Nadu and Gujarat, non communicable diseases are fast replacing infectious diseases and malnutrition as the leading causes of morbidity and mortality. These studies raise issues of service delivery in low-capacity settings. Issues of

improving public-sector performance and leveraging the enormous capacity of the private health sector to successfully deliver health-care are central to any health system. , The study discusses the mechanics of financing these health interventions and the implications for center-state financial responsibilities.

**Stijn Claessens (2006).** In this study, the author has reviewed the evidence on the importance of rural health-care finance for economic well-being. It provides data on the use of basic health-care financial services by households and firms across a sample of countries, assesses the desirability of universal access, and provides an overview of the macro-level, legal, and regulatory obstacles to access. Despite the benefits of health-care finance, the data show that use of rural health-care financial services is far from universal in many countries, especially developing countries. Universal access to health-care financial services has not been a public policy objective in most countries and would probably be difficult to achieve. Countries can, however, facilitate access to financial services by strengthening institutional infrastructure, liberalising markets and facilitating greater competition, and encouraging innovative use of know-how and technology. Government interventions to directly broaden access to rural health-care finance, however, are costly and fraught with risks; among others, the risk of missing the targeted groups. The study concludes with recommendations for global actions aimed at improving rural health-care data on access and use and suggestions on areas of further analysis to identify constraints to broadening access.

**Melitta Jakab, Alexander Johannes Paul Jutting, and Anil Gumber (2002).** The authors have sought to provide empirical evidence regarding the performance of rural health-care financing in terms of social inclusion and financial protection. Methods employed include: five non-standardized household surveys analysed from India (two samples); common methodology was applied to the five data sets. Logistic regression was used to estimate the determinants of enrolling in a community-financing scheme. A two-part model was used to assess the determinants of financial protection: part one used logistic regression to estimate the determinants of the likelihood of visiting a health-care provider. Part two used ordinary least-squares regression to estimate the determinants of out-of-pocket payments. Findings: It emerges that community financing health-care can be inclusive of the poorest even in the most economically deprived context. Nevertheless,

this targeting outcome is not automatically attributable to the involvement of the community. Rather, it depends on key design and implementation characteristics of the schemes. Health-care financial protection community financing reduces financial barriers to health-care as demonstrated by higher utilisation and simultaneously lower out-of-pocket expenditure of scheme members controlling for a range of socioeconomic variables.

**K. Kananatu (2000).** This review presents an overview of the India health-care system and its method of financing. The development of the health-care delivery system in India is commendable. However, the strength and weaknesses of the public health-care system and the financing problems encountered are also discussed. Cost of health-care and funding of both the public and private sectors were also revealed. One must optimise the advantages of operating a health financing scheme which is affordable and controllable which contribute towards cost-containment and quality assurance. Thus, there is a need for the establishment of a national healthcare financing, a mechanism to sustain the health-care delivery network and operate it as a viable option. A model of the national health financing has been proposed.

**Saltman and Ferroussier-Davis (2000).** This study examines the determinants of financial protection, health, and social inclusions supply in health system and related sectors. There is a hierarchy of interest from non-health sector factors in improving financial protection. These factors include: GDP, prices, inflation, availability of insurance markets, effective tax systems, credit, and savings programmes to more traditional parts of the health system (a) preventive and curative health services, (b) health financing, (c) input markets, and (d) access to effective and quality health services (preventive, ambulatory, and in-patient). In respect to the latter, organisational and institutional factors contribute to the incentive environment of health-financing and service delivery systems in addition to the more commonly examined determinants such as management, the health-care policy actions by governments, civil society, and the private sector. Finally, through their stewardship function, governments have a variety of policy instruments that can be used to strengthen the health system, the financing of services, and the regulatory environment within which the system functions. These include: regulation, contracting, subsidies, direct public production, and ensuring that

information is available. In countries with weak government capacity, civil society and donors can be encouraged to play a similar role.

**Charu C. Garg (1998).** This study describes the financing and delivery of health-care in India from the viewpoint of equity. In this context, typical financing mixes of public and private sources are examined. Inequity in delivery of health-care is analysed on the basis of utilisation of health services by people in different income quintiles, and in different geographical locations on the basis of self-reported ill health. The study explain that, even though the government sources of financing are mildly progressive, the large proportions spent by the households on health-care makes it overall regressive. Both government and private expenditures are higher for higher income quintiles and for people living in urban areas and working in the organised sector. On the other hand, people in lower income quintile and in rural areas bear higher burden of health expenditure as a proportion of their income. Delivery of health-care is also found to be biased in favour of urban areas. The study mainly uses secondary data sources. Data on tax and non-tax revenues of the government are available from the Ministry of Finance, Government of India documents.

#### **2.1.7. Public Healthcare System Role in India**

**Nirvikar Singh (2008).** This study examines delivery of public health-care services in India, in the broader context of decentralisation. It provides an overview of the basic features and recent developments in inter-governmental fiscal relations and accountability mechanisms, and examines the implications of these institutions for the quality of public health service delivery. It then addresses recent policy proposals on the public provision of health-care in the context of decentralisation. Finally, it makes suggestions for reform priorities to improve public health-care delivery, discusses the nature of health-care services and summarises the pattern of public-sector health spending in India. Thereafter, the basic features of inter-governmental fiscal relations, recent developments, and accountability mechanisms for the provision of sub national public goods are reviewed. Subsequently, the impact of the intergovernmental system and accountability mechanisms on the quality of public service delivery, including health-care are examined. The study specifically addresses recent public policy proposals on the provision of health-care, in the context of decentralisation. Finally, it offers a

concluding assessment with suggestions for reform priorities to improve public health-care delivery.

**Umesh Kapil & Panna Choudhury (2005).** According to the authors, the country has created a vast public health infrastructure of sub-centres; public health centres (PHCs) and Community Health Centres (CHCs). There is also a large cadre of health-care providers (auxiliary nurse midwives, male health workers, lady health visitors and male health assistants). Yet, this vast infrastructure is able to cater to only 20% of the population, while 80% of healthcare needs are still being provided by the private sector. Rural India is suffering from a long-standing healthcare problem. Studies have shown that only one trained healthcare provider including a doctor with any degree is available per every 16 villages. Although, more than 70% of its population lives in rural areas, but only 20% of the total hospital beds are located in rural area. Most of the health problems that people suffer in the rural community and in urban slums suffer are preventable and easily treatable. In view of the above issues, the national rural health mission (NRHM) has been launched by government of India (GOI). The ASH would be trained to advise village populations about sanitation, hygiene, contraception, and immunization; to provide primary medical care for diarrhea, minor injuries, and fevers; and to escort patients to medical centers.

#### **2.1.8. Community Participation in Rural Healthcare**

The term community has a multitude of interpretations. its usage over time has become so persuasive that its meaning is overlaid with a vast range of associations (Hawtin, Hughes & Percy-Smith, 1994). Hawe (1994) provides a summary of approaches to defining a community. She firstly describes community using a demographic approach where characteristics of the population, such as gender and age, are central to the definition. Her second approach is geographically determined where actual locations or specific settings are identified. Illustrations used by Hawe include workplaces, schools and hospitals – but could also include the actual physical boundaries of a particular community (rivers, mountains, local government boundaries). The third approach she presents is the commonly used community development or issues approach which describes a community as a social system, having a “.... Capacity to work towards solutions to its own community identified problems.”

**Gilchrist (2004)** takes a similar approach and uses relationships and networks as the basis for identifying a community. She argues that the informal networks that exist between individuals, groups and organisations which are integral to people's lives are central to the meaning of community. The community development model, she proposes, plays a central role in assisting people to connect with one another so as to empower individuals and groups to overcome or renegotiate obstacles which prevent them from communicating and working together. Communities are "actively constructed by their members"

While the definition of community in terms of location has been the most common usage of the term in the past, Barnes (1997), like Gilchrist (2004), presents a definition based on identity of people who share significant characteristics and experiences, adding that this better reflects the plurality of contemporary society.

**Rifkin, Muller, and Bichmann (1988)** would concur with this definition. They use the community development definition of community to focus on specific populations and "at risk" groups, such as the poor. This definition is rooted in the epidemiological view of community. In PHCs [primary health-care centres], in terms of equity, effectiveness and efficiency, groups of people need to be identified so that resources can be allocated to the greatest effect. It is, therefore, important to take into account this aspect of health concerns in seeking a realistic definition.

**Wood and Judikis (2002)** identify essential process elements of a community to include a sense of common purpose or interest, an acknowledgement of interconnectedness, respect for individual differences and a commitment to the well-being of members of the community. "Communities are stronger when individual members with diverse strengths and talents share in the community vision, purpose, interests and intended outcomes." Wood and Judikis identify five different categories of community; nuclear (for example, family), tribal (racial, gender or social class), geopolitical (defined by geographic boundaries), life (contacts across a lifetime) and collaborative communities. A collaborative community exists to serve a specific purpose or address an identified need. This all-encompassing approach to describing communities fits well with the parameters of "community" identified in this research. There are a number of quite diverse communities all working towards achievement of the same goal -

that is - PHCs establishment. Process considerations, therefore, need to include shared goals, vested interests, and preferred ways of doing, power relationships and capturing the benefits of diversity.

**Laverack (2004)** acknowledges that there is considerable overlap between community participation, community development, community empowerment and community capacity building. Participation, like community, has a wide range of meanings. Labonte (1997) describes participation as the attempt to bring together different stakeholders for the purposes of problem-solving and decision-making. Rifkin. (1988) provide an expanded definition, incorporating a notion of community and the social processes which contribute to determining and addressing need. Campbell & Jochelovitch (2000) agree that it is the process of participation that allows social representation to be expressed, reaffirmed and renegotiated, and provides a platform for dialogue between different representations. Morgan (2001) presents a number of approaches to participation. The utilitarian approach sees external agencies inviting communities to participate in a pre-determined project. This approach would be aligned with people's understanding of the notion of consultation. However, Morgan argues that this approach is often used to offset costs,

**Irvin and Stansbury (2004)** hold the view that this participatory approach can be more expensive than decisions made by a single agency, even if the participants' time costs are ignored. The second approach identified by Morgan (2001) is that of empowerment. Empowering local communities and creating social change to improve health outcomes and reduce inequalities are central to this approach. Labonte (1997) places emphasis on the importance of relationships in underpinning participation. Participation is a process "that continuously changes and unfolds as individual actors (and their varying group or organisational constituencies) negotiate the terms of their relationships." An added dimension is one of commitment and responsibility across the spectrum from needs identification through to evaluation of established health services. **Rifkin (1988)** take a similar approach by identifying the factors which contribute to effective participation as: needs assessment, leadership, organisation, resource mobilisation and management. Rifkin suggests that these factors (with the exception of the last) present themselves at different places on a continuum: extending from wide to

narrow participation depending on the nature of the project. This approach, they propose, provides an opportunity to examine process rather than just the impact of community participation.

**David Sanders (2007)**, in his introductory key note address, traced the international history of CHWS and the emphasis on people's participation in ensuring basic health of communities in the current context of globalisation. Over the past decades, the developing countries have seen many improvements in population health indicators such as infant mortality rate, crude birth and death rates and life expectancies. However, certain other indicators, such as neo-natal mortality, maternal morbidities and mortalities, and under-nutrition, have seen significant deterioration. Although aggregate data hides intra-national, interregional and inter group inequalities, a closer examination shows that urban-rural and gender related health inequalities have increased significantly even in developed economies, indicating differential access to health services. One of the primary factors contributing to these inequalities is the decreasing state budgetary allocations towards health, and resulting increase in private or out-of pocket expenditures. Predictably, the quality of public health services is low and deteriorating, predisposing the poor to increased health vulnerabilities. Given these realities, the need for primary health-care through strengthened community based and systemic interventions has assumed utmost importance. It is in this context that CHW programmes have been conceptualised as agents for realising the right to health for the poor, and have been positioned within global economic, social and political processes, which, in turn, determine the characteristics and efficiency of these programmes.

**Laverack (2004)** acknowledges that there is a considerable overlap between community participation, community development, community empowerment and community capacity building. Participation, like community, has a wide range of meanings. Labonte (1997) describes participation as the attempt to bring together different stakeholders for the purposes of problem-solving and decision-making. Rifkin, (1988) provide an expanded definition - incorporating a notion of community and the social processes which contribute to determining and addressing need.

Arguments in support of involving communities in the implementation of new policy are universally supported as one means for improving health and health-care

delivery (Guareschi & Jovchelovitch, 2004). Proponents support the belief that communities involved in the implementation of policy initiatives are more likely to embrace change, there will be improved acceptance of strategy expectations placed on communities by external agencies, participation will more likely produce better decisions and communities will have a better appreciation of issues and rationale for change (Arnstein, 1969; Beierle, 1999; Box, 1998; Irvin & Stansbury, 2004; King, Feltey & O’neill Susel, 1998; Oldfield, 1990; Stivers, 1990). Irvin and Stansbury (2004) highlight an important long term benefit. This is the opportunity accorded to community participants and agency personnel alike to learn from and inform one another. They propose that policies are more likely to be grounded in citizens’ preferences and the public are more likely to become sympathetic to tough agency decisions if participation is seen to be genuine. In addition, if citizens have regular contact with agency decision makers, they may act as advocates for government policy positions in their communities and government agencies can obtain important support for change which may otherwise be challenged if imposed unilaterally. In support of this, King and Stivers (1998) propose that improved participation can strengthen trust between bureaucrats and communities. The overall benefit could see participation as a transformative tool for social change (Nelson & Wright, 1995).

#### **2.1.9. Healthcare Community Assessment and Performance**

**Melitta Jakab & Chitra Krishnan (2001).** The study examined healthcare community financing to assess the performance of community involvement in health financing in terms of the level of mobilised resources, social inclusion, and financial protection; and establish the determinants of reported performance results, including technical design characteristics, management, organisational, and institutional characteristics. Community financing is an umbrella term used for several different resource mobilisation instruments. The instruments vary in the extent of their pre-payment and risk sharing, in their resource allocation mechanisms, organisational and institutional characteristics. Nevertheless, the common features they share include the predominant role of the community in mobilising, pooling and allocating resources, solidarity mechanisms, poor beneficiary population, and voluntary participation. Performance of community-based financing can be based on:

- (i) How these mechanisms mobilise significant resources for health-care.
- (ii) How effective it is in reaching a large number of low-income populations who would otherwise have no financial protection against the cost of illness.
- (iii) How systematically community-based health financing schemes are reported to reduce the out-of pocket spending of their members while increasing their utilization of health-care services. All studies with focus on community-based resource mobilisation were included. The reviewed literature is very rich in describing the phenomenon referred to as community financing in terms of scheme design and implementation.

**Johannes Paul Jutting (2000):** the rural healthcare in India” the main objectives of the. The potential social benefit of the schemes, i.e., their impact on health-care access, labour productivity, and households’ risk-management capacity, has been largely ignored. Community based health-care schemes are being increasingly recognised as instruments to finance health-care in developing countries. Taking the example of less mutual health organisation in rural areas, this review analyses whether members in a mutual health-care finance scheme have better access to health-care than non-members. A binary probit model is estimated for the determinants of participation in a mutual and a logit/log linear model is used to measure the impact on health-care utilisation and financial protection. It is seen that, while the health health-care schemes reach otherwise excluded people, the very poorest in the communities are not covered. Regarding the impact on the access to health-care, members have a higher probability of using hospitalisation services than non-members and pay substantially less when they need care. Given the results of this study, community-financing schemes have the potential to improve the risk-management capacity of rural households. The modeling of mutual healthcare schemes’ impact on health-care use and expenditure faces the important challenge of dealing with the problem of “self-selection.” This problem is currently receiving a great deal of attention in different areas of development economics, including measuring the impact of microfinance institutions, estimating the returns of education, and analysing the impact of health-care on various outcomes.

**Taylor J, Wilkinson D & Cheers B (2001).** This study explores the relationships between rural places and community participation in health service development.

Community participation in planning for health programmes and services is fundamental to effective and accessible primary health-care. It was found that community participants understood community participation as social interactions embedded in a community of place related to the betterment of the community. From this understanding, three concepts about community participation in health activities emerge. These are:

- a. Community participation as development of place
- b. The value of the community participation processes to the community
- c. Community participation consistent with community values and attitudes.

An understanding of the relationships between community functioning and community participation is essential for health professionals working with communities and for the communities themselves. It may be important in developing community-based initiatives in other fields such as social care and environmental management.

**Somnath Roy and B.B.L. Sharma (2002).** According to the authors, active community participation is one of the most important supportive activities for successful implementation of primary health-care for achieving the goals of health for all by the year 2000 AD. In this study, the nature, the various aspects and dimensions of community participation, and its role and scope in successful implementation of different components of primary health-care have been described. The concepts and general principles, as evolved from a wide range of experiences available from within and outside the country, have been systematically analysed and organised. The steps needed for operationalising community participatory processes have been indicated. Some of the successful experiences in bringing about community participation in the country have also been briefly presented to bring out the lessons learnt from them. At least eight essential components of primary health-care are to be implemented. These are: (i) education of the people about prevailing health problems and the methods of preventing and controlling them; (ii) promotion of food supply and proper nutrition; (iii) adequate supply of safe water and basic sanitation; (iv) maternal and child health-care and family planning; (v) immunization against major infectious diseases; (vi) prevention and control of locally endemic diseases; (vii) appropriate treatment of common diseases and injuries; and (viii) provision of essential drugs. For successful implementation of these components, organisation of the following eight types of supportive activities will be very important:

- A. Community involvement and participation
- B. Intra- and inter-sectoral coordination
- C. Development of effective referral support
- D. Development and mobilisation of resources
- E. Involvement of managerial processes
- F. Health manpower development
- G. Medical and health services research, including innovative approaches
- H. Development and application of appropriate technology.

#### **2.1.10. Quality of Healthcare Services**

**Kaveri Gill (2009).** The study seeks to evaluate quantity and quality of service delivery in rural public health facilities under NRHM. On appropriate and feasible measures, the former is assessed on the static and dynamic condition of physical infrastructure; by the numbers of paramedical, technician and medical staff employed, the micro-findings across four states (A.P, UP, Bihar, Rajasthan), which have resulted in rankings in individual sections of the study, suggest disparate situations at various levels of centres and on different components, reflecting context-specific underlying driving factors, some complex by nature. Based on these findings, one could easily rank the states on ‘overall performance of service delivery under NRHM,’ which has put rural public health-care firmly on the agenda, and is on the right track with the institutional changes it, has wrought within the health system.

**B. S. Ghuman and Akshat Mehta (2009).** According to the authors, the main objective of this study is to examine the quality of health services in India which include the problems and prospects in this area.. India as a nation has been growing economically at a rapid pace particularly after the advent of new economic policy of 1991. However, this rapid economic development has not been accompanied by social development particularly health sector development. Health sector has been accorded very low priority in terms of allocation of resources. Public expenditure on health is less than 1 per cent of GDP in India. It has further witnessed a decline during the post-economic liberalisation period. The meager resource allocation to the health sector has adversely affected both access and quality of health services. With a view to improve access and quality of health services, government should enhance public spending on the

health sector in the vicinity of 3 per cent of the GDP. Data about health services has been collected from 352 households comprising 300 from the rural areas and 52 from the urban areas. For data analysis, the suitable statistical techniques have been used.

**Jagdish Krishnappa, H V Sridevi and Dr U V Somayajulu (2006).** The authors believe that health-care in India has improved in an impressive manner in the recent decades. However, the rural health-care in India faces the problem of varying morbidity patterns. This is reflected in the life expectancy (63 years), infant mortality rate (80/1000 live births), and maternal mortality rate (438/100000 live births). Given the limited health facilities available, quality health-care is still beyond the reach of millions of rural masses. This can be considered as a violation of basic human rights of the people to have the benefit of quality health services. This also highlights the rural health-care equity issues. The issue of rural health needs to be addressed both at macro and micro levels, involving a coordinated, holistic approach so as to improve the health status in rural India. The national health policy addresses the prevailing inequalities, and promotes a long-term perspective plan, mainly for rural health. Launching of National Rural Health Mission (NRHM) in India in 2005 aiming at integrating different vertical programmes, decentralising health-care service delivery at the village, and improving inter-sectoral action, was a major step in this direction. NRHM activities are also expected to help in substantial reduction in maternal and infant mortality from communicable diseases in the years to come. This study makes an attempt to understand the programmatic issues in rural health sector with specific reference to rural India and progress and review of NRHM in non-high focus large southern states of India, viz., Andhra Pradesh, Karnataka and Tamil Nadu. This study is based on the review of available literature and analysis of available secondary data.

## 2.2. International Experience

### 2.2.1. Implementation of Primary Healthcare Model

**Armenia PHCs Model: Cardno Healthcare Group Report (2009).** This study explains the Armenia primary healthcare model, the implementing of primary health-care reform (PHCR), increased access to and demand for quality health-care services; build sound health systems and structures; and improve utilisation of financial resources in the health sector in Armenia. Health-care personnel work with local and international partners to ensure efficient and effective delivery of health services to those most in need. The objectives of Armenia primary health-care are:

- a. Reform health-care system policies and procedures nationwide
- b. Build clinical service capabilities through a family medicine approach
- c. Improve the quality of health-care
- d. Foster improved health-care seeking behaviour through public health-care education health-care promotion activities

The emergence of health-care strengthens public and private sector institutions and systems, improves financial management, reforms budgetary procedures, implements innovative payment systems and performance-based rewards, and ensures transparency and accountability. Health-care Emerging Ltd is implementing the basic set of interventions nationwide using a regional rollout method

**Amir Ashkan nasiripour, behrooz rezael and Mohammad hosein yarmohammadian (2009).** The study makes a comparative evaluation of primary health-care management systems in selected countries and designing a model in this research primary health-care systems were reviewed and the nurses' roles were determined and then a model was designed for health networks in Iran. This was a triangulation research done in comparative method. In the first step, PHC systems were reviewed in different countries such as UK, Australia, Canada, Sweden and Turkey selected in purposive sampling. In the second step, the process of management of PHC services in selected countries were determined from accessibility, providers and referral system, and then compared to PHC system in Iran. Thereafter, a primary model was designed. In all of the studied countries, PHC services were delivered by health team including family physicians, nurses,

midwives, and health technicians in systematic networks including local health centres, family physicians' offices and nursing clinics. Family physicians and nurses had a basic role in delivery of services. Also, other health practitioners such as psychiatrists were attached with the health teams. PHC services in most cases on the basis of people's need and health information were transmitted between the providers by health files. It was found that an effective referral system exists between health services. The model of PHC delivery was on the basis of health team with systematic network of the local health centers and provides accessibility, quality and comprehensively of services. The authors suggest employment of educated nurses in health centres to provide more health services.

**S Wong and S Regan (2009).** This study discusses how to deliver primary health-care (PHC) services and increase their accessibility from the patient's perspective. The authors conducted seven focus groups with people living in rural communities, in British Columbia, Canada, as they reflected on priorities for the use of PHC. Equitable access to health-care for all Canadians is a fundamental principle of the Canadian health-care system. Health-care systems that fail to provide equitable access for diverse populations can increase the gap in health disparities. Indeed, access to and utilisation of primary healthcare (PHC) services is one pathway by which inequalities can influence population health and equitable access to health services continues to be a common concern across geographic locations. The purpose of this study was to examine the perspectives of PHCS of people who live in rural communities. Primary health-care can be defined as an approach to health policy and service provision that includes both services delivered to individuals (primary care services) and population-level, public health-type functions. The geographic location of rural communities compounds the extent to which these people are able to access timely and continuous PHCs. In addition to discussing their priorities for PHCs services, participants completed a brief questionnaire designed to collect information regarding socio-demographics, health status and utilisation of primary health-care providers. Descriptive statistics were obtained from questionnaire data. Focus group data were coded using an evaluation framework specifically developed for PHCS.

**Catherine Hurely (2009).** This study sought to identify the extent to which the Alma Ata defined comprehensive primary health-care (PHCs) approach is practised and evaluated in Australia and to describe the role that GPs and other medical practitioners

play in it along with implications of this for future policy in light of the Health and Hospital Reform Commission (HHRC) and primary health-care taskforce reports, 2009 recommendations. In Australia, the PHCs approach occurs chiefly in aboriginal controlled community health services, state funded community health and in rural/remote and inner city areas. Participation by GPS in PHCs is limited by funding structures, workforce shortages and heavy workloads. Factors that facilitated the CPHCS approach include flexibility in funding and service provision, cultural appropriateness of services, participation and ownership by local consumers and communities and willingness to address the social determinants of health. The recent HHRC and primary health-care taskforce reports recommend an expansion of PHC services as a means of tackling health inequities. The findings of this a renewed research and policy focus on CPHCS was also evident. One such effort was the “revitalising health for all” (RHFA) research and capacity building project funded by the Canadian global health research initiative the a study was conducted and a narrative review of the literature (published and grey) from 1987 to mid 2007 as part of a global review carried out by teams of researchers in six regions in 2007 was brought out.

**WHO Report (2008).** This review examines the implementation of primary health-care (PHC) in Africa and identifies strategic interventions those are required to cope with the new challenges facing the health systems in the 21st century. The review addresses PHC policy formation and implementation, the resources that are available for PHC implementation, monitoring and review. The review finds that PHC policy formation had been well articulated in the national health policies by most countries. However, the extent to which PHC policies encompassed equity, community participation, inter-sectoral collaboration and affordability is still questionable. Factors delaying PHC implementation include weak structures, inadequate attention to PHC principles, inadequate resource allocation and inadequate political will.

The recommendations of the review include:

- a. Health sector reforms with PHCS to ensure that initiatives promote equity and quality in health services
- b. Improve the fairness of financing policies and strategies and service coverage for the poor

- c. Support countries to address their particular human resource needs through clear articulation of human resources policies, plans, development and strengthening of national management systems and employment policies
- d. Support countries to identify and put in place mechanisms for attracting and retaining health personnel

**Michael J. Garner & Michael Birmingham (2008).** This study focuses on primary health-care, in Canada. The use of complementary and alternative medicine has been increasing in Canada despite the lack of coverage under the universal public health insurance system. Physicians and other health-care practitioners are now being placed in multidisciplinary teams, yet little research on integration exists. The authors have sought to investigate the effect of integrating chiropractic on the attitudes of providers on two health-care teams. A mixed methods design, with both quantitative and qualitative components, was used to assess the health-care teams. Assessment occurred prior to integration, at mid study, and at the end of the study (18 months). Multidisciplinary health-care teams at two community health centres in Ottawa, Ontario, participated in the study. All physicians, nurse practitioners, and degree-trained nurses employed at two study sites were approached to take part in the study. A quantitative questionnaire assessed providers' opinions, experiences with collaboration, and perceptions of chiropractic care. Focus groups were used to encourage providers to communicate their experiences and perceptions of the integration and of chiropractic. This project has demonstrated the successful integration of chiropractors into primary health-care teams.

**Government of Belgium and government of Tanzania (2008).** The main aim of this study is to examine the progress of the project to support Karagwe district in improving its primary health-care (PHC) services. The study focuses on three areas: improved financing of services through cost sharing/cost recovery instruments and insurances, improved quality of care through provision of drugs and medical supplies, improvement of skills of the PHCS staff, . During the first half of 2008, a number of poor families were identified and exempted from payment for the community health-care financing services. The health services in Karagwe district are provided by the government, voluntary agencies and non-governmental organisations. There are three hospitals, three health centres and more than forty dispensaries in the district. Most of

these health facilities have critical shortages of qualified staff. Health equipments are insufficient and often the infrastructure is poor.

**J. Macinko, H. Montenegro and C. Nebot (2007).** This document describes the position of the Pan-American Health Organization on the proposed renewal of primary health-care (PHC) in the America. It highlights reasons for adopting this renewed approach. These include: the rise of new epidemiologic challenges that PHCs must evolve to address and the growing recognition that PHCs can strengthen society's ability to reduce inequities in health. The document examines the concepts and components of PHCs and the evidence of its impact. It finds that PHCs represent a source of inspiration and hope for most health personnel and also the community at large. There is a need to reinvigorate PHCs in the region so that it can realise its potential to meet current and future health challenges. The proposed mechanism for PHCs' renewal is the transformation of health systems so that they incorporate PHCs as their basis. This system entails an overarching approach to the organisation and operation of health systems that makes the right to the highest attainable level of health its main goal. The health system should be composed of a core set of functional and structural elements that guarantee universal coverage and are equity enhancing. This requires a sound legal, institutional, and organisational foundation, as well as adequate and sustainable human, financial and technological resources.

**C. John Clements, Pieter H and Clement Malau (2007).** This study explores issues regarding primary healthcare. There is nothing new about supervision in primary health-care service delivery. Supervision was even conducted by the Egyptian pyramid builders. Those supervising have often favoured ridicule and discipline to push individuals and communities to perform their duties. A traditional form of supervision, based on a top-down colonial model, was originally attempted as a tool to improve the performance of health service staff. This has recently been replaced by a more liberal "supportive supervision". While it is undoubtedly an improvement on the traditional model, the authors believe that even this version will not succeed to any great extent, until there is a better understanding of the human interactions involved in supervision. Tremendous cultural differences exist over the globe regarding the acceptability of this form of management. While it is clear that health services in many countries have

benefited from supervision of one sort or another, it is equally clear that, in some countries, supervision is not carried out, or, when carried out, is done inadequately. In some countries, it may be culturally inappropriate, and may even be impossible to carry out supervision at all. The authors have examined this issue with particular reference to immunisation and other primary health-care services in developing countries. Supported by field observations in Papua New Guinea, the authors conclude that supervision and its failure should be understood in a social and cultural context, being a far more complex activity than has so far been acknowledged. Social science based research is needed to enable a third generation of culture-sensitive ideas to be developed that will improve staff performance in the field.

**Wendy Rogers and Bronwyn Veale (2003).** This study discusses the primary health-care and general practice. Primary health-care (PHC) is a term which has come to have many different meanings to different people. Recognising the complexities behind the term, and the relationships between PHCS, population health and general practice are important steps in addressing any possible shift in emphasis from general practice to PHCS. The philosophy behind PHCs is based on:

1. Holistic understanding and recognition of the multiple determinants of health
2. Equity in health-care
3. Community participation and control over health services
4. Focus on health promotion and disease prevention
5. Accessible, affordable, acceptable technology
6. Health services based upon research methods.

**D. McCoy, E. Buch and N. Palmer (2000).** According to the authors, the devolution of primary health-care delivery to local government means that inter-governmental relations are emerging as a critical issue in the transformation of South Africa's health system. The role of contracts or service agreements in helping to define the nature of these inter-governmental relationships is important. This document, produced by the health systems trust, considers the nature of inter-governmental relationships. This study introduces the advantages and disadvantages of contractual relationships within the public health sector, examines different types of contracts, describes the nature of inter-governmental relationships in South Africa and features of the PHC approach and district health system

model integral to the South African health system, and discusses how these factors will influence and potentially be influenced by the use of contracts. It also emphasises the importance of integrated district and provincial health planning as the basis for contracts. In addition, this study discusses the issues raised and draws conclusions of interest to those involved in the process of establishing contracts. This study makes the following recommendations for a successful inter-governmental contractual relationship for the provision of PHCs:

- a. Work from a national/provincial strategic and policy framework, and from a comprehensive and integrated area-based PHC plan.
- b. Adopt a relational approach to contracting that encourages partnership, and emphasises trust, mutual support and a shared vision.
- c. Adopt contract specifications that are broad and flexible, and which stress constructive monitoring and evaluation procedures.

**Roger Feldman, David M. Deitz, BA, and Edward F. Brooks, (1978).** The authors bring out that primary health-care centres have been proposed to meet the health-care needs of rural America. Some centres become financially "self-sufficient", receiving their entire budgets from direct patient or third-party payments; others shut down when external funding was withdrawn. An explanation for this difference is important, because funding agencies may not wish to subsidise centres whose financial future appears bleak. This study identifies the correlates of financial self-sufficiency. A survey conducted in late 1976 of 164 rural clinics provided 101 usable responses. Multiple regression analysis of the data shows that the longer a centre has been in operation, the more self-sufficient it will become. Hospital control of the centre and provision of laboratory tests increase self-sufficiency; outreach services and nonprofit status reduce it. Two variables related to financial self-sufficiency are separately examined. Clinics with a faster growth rate of patient visits are more self-sufficient, and smaller clinics tend to grow faster. More self-sufficient clinics experience less difficulty in retaining professional staff. The presence of a state Area Health Education Centre (AHEC) programme also eases the problem of staff retention.

**Winnie Yip and Ajay Mabal (2008).** In this study, the authors have explored the health-care systems of China and India. Both these countries have recently committed to

injecting new public funds into health-care. Both countries are now deciding how best to channel the additional funds to produce benefits for their populations. In the study, the author analyses how well the health-care systems of China and India have performed and what determines their performance. Based on the analysis, this paper suggests that money alone, channeled through insurance and infrastructure strengthening is inadequate to address the current problems of unaffordable health-care and heavy financial risk, and the future challenges posed by aging populations that are increasingly affected by non-communicable diseases. To facilitate comparisons between China and India, the study adopt an analytical approach that is commonly used in evaluating health systems and designing health-care reform.' This approach conceives of a health system as a set of relationships in which the structural elements of the system are causally connected to the goals of the system. These elements include: health status, financial risk protection, and public satisfaction, and the equitable distribution of each of these. The health system provides financial risk protection, which can be assessed by two metrics. The first measures the percentage of households in a population that are pushed below the poverty level as a result of out-of-pocket payments for health-care. Existing evidence suggests that households in both China and India are vulnerable to financial shocks associated with ill health. A recent study shows that out-of-pocket health spending increases the percentage of people below the poverty level (US \$1.08 per day) by nearly 20 percent in China, from 13.7 percent to 16.2 percent. In India, out-of-pocket spending increases the already high poverty rate of 31.1 percent to 34.8 percent, despite a smaller proportional increase compared to China.

**Sonia Bhalotra (2007).** This study explains the severe inequalities in health-care in the world. Poor countries spend a much smaller share of their national income on health expenditure than do richer countries. What potential lies in political or growth processes that can raise this share? This depends on how effective government health spending in developing countries is. Existing research presents little evidence of an impact on infant mortality. Using specifications similar to those in the existing literature, this study finds a similar result for India, which is that state health-care spending saves no lives. However, upon allowing lagged effects, controlling in a flexible way for trended unobservable and restricting the sample to rural households, a significant effect of health-

care expenditure on infant mortality emerges, the long run elasticity being about -0.24. There are striking differences in the impact by social groups. Slicing the data by gender, birth-order, religion, maternal and paternal education and maternal age at birth, the author finds the weakest effects in the most vulnerable groups. The study micro-data are derived from the second round of the National Family Health Survey of India. These micro-data are merged by state and year of birth with a panel of data on health expenditure and other relevant statistics for the 15 Indian states.

**Ministry of Health, China (2005).** The study explains the costs and efficiency in China's rural health-care system. A variety of indicators suggest low levels of efficiency in China's health sector. Bed occupancy rates are low: the average for all hospitals in China is just over 60%; the figure is below 40%. In the established market economies of the Organisation for Economic Cooperation and Development (OECD), the average is nearly 80%. The productivity of health staff is also low, with relatively few patients seen per day (about 5 outpatients per doctor and 1.5 inpatient bed days per doctor for general acute hospitals in 2004) (Ministry of Health, 2005). Low-capacity utilisation raises costs above the feasible minimum, although how far is not known and so does the provision of unnecessary care. One study found that 20% of all expenditure associated with appendicitis and pneumonia treatment was clinically unnecessary (Liu & Mills, 1999). In part, this was because of excessive drug spending (one third of drug expenditures were considered to be unnecessary by a panel of reviewing physicians), but it was also due to overly long hospital stays (the panel concluded that, for both conditions, length of stay could be reduced by 10–15%, without any adverse effects on health outcomes). Levels of productivity also appear to be stagnating or falling. Since the 1980s, the number of providers has increased, while caseload has been falling (Ministry of Health, 2004). Bed-occupancy rates were, as a result, falling, with slight improvements since then (Ministry of Health, 2005). The number of patients treated per provider per day has also fallen in rural areas.

**World Bank report (2005).** In this report, the focus is on improving health service delivery that have been discussed in the literature. Peabody (2006) summarises these in the context of low- and middle-income countries:

- a. Generate and encourage the use of specific clinical algorithms based on evidence of best practice.
- b. Have service providers acquire skill and speed by doing a few things frequently rather than many things occasionally. Learning by doing is key to improving performance. This lesson is very relevant for India given the hard reality that, at least initially, the rural healthcare mission will have resources only for a limited set of high-priority items.

**WHO Report (2008):** the National Rural Health Mission (NRHM) is one of the largest global programmes for revitalising primary health-care systems in India. The thrust of the programme is on securing quality health services that are accessible, affordable and accountable in remote rural areas. The NRHM works on the assumption that only by securing people's health in people's hand will we be able to address the wider determinants of health-care in India. The effort has been to craft a credible public system of health-care by establishing decentralised institutions of local communities from the village to the district levels. Such committees are under the umbrella of the local governments of India and allow for involvement of all those with the motivation to improve the lives of people. NRHM's approval signified a paradigm shift that was aimed at crafting a credible public system of health delivery. From funding vertical schemes, NRHM advocated crafting of credible public platforms of health-care at all levels, from village level health and sanitation committees to panchayat owned sub health centres, PHCs, CHCs, sub-district and district hospitals; instead of forcing centrally designed schemes across all states,

### **2.2.2. Rural Health-Care System in International Experience**

**Gina M. Berg-Copas (2009).** The purpose of this study was to develop a greater understanding of health-care issues in rural area communities. These issues, identified as global in nature, also have been identified in rural area, a predominantly rural state. Public health departments provide services to 2.9 million residents in 105 counties. In rural areas, there is wide variation in public health capacity across rural area, and rural areas have difficulty maintaining health-care resources. Concerns identified by rural area community focus groups have legitimate and supported bases. The purpose of this focus group study was to identify community perceptions of health-care needs of rural area and

to understand better the perceived strengths and weaknesses of those communities. Community strengths include: quality of life, community involvement, health-care facilities, agency collaboration, and commitment to health-care worker recruitment. Weaknesses are: language barriers, aging population, health-care workforce availability, physician and spouse recruitment, access to medical, dental and mental healthcare, poor oral hygiene, and community members identified several opportunities for rural areas, including the high quality of life, agency collaborations, public health,

**Paul (2008)**, This study discusses the health policy and development, compares the attrition rates of health professionals in three private not-for-profit and three government general hospitals in West Nile Region, Uganda, between 1999 and 2004. It also examines the destinations to which the rural health-care professionals were lost, the reasons for their leaving and the source of new staff. The paper finds that the annual attrition rate of health professionals are high especially in private hospitals. The most frequent reasons for attrition are: poor conditions of service, low pay and poor relationships between the staff and the managers. Most replacements come from training institutions, which impacts on the quality of services in terms of the skills needed for service delivery the authors offers recommendations to the Ministry of Rural Health-care. These include:

- a. Offer well managed additional monetary incentives to health workers service in the rural areas
- b. Put more funds into the health sector in order to fill in staffing gaps
- c. Invest funds in training of health service managers for better management of health service.

**Robert J. Parsons, Bruce P. Murray, and Richard B. Dwore (2003)**. This study describes the results of a literature search of pertinent professional literature written on issues important to rural health-care delivery in the United States. Rural health-care delivery has become, in many respects, a major national concern during the past decade. Problems include: the continuing and marked exodus of health-care providers and organisations from “rural” and “pioneer” regions of the country, the numerous federal and state initiatives intended to insure the availability of health-care services and providers in rural communities and show government commitment to rural health issues, and the increased emphasis on memberships to rural health and health-care delivery by

the respective healthcare provider professional and affiliate associations. Overall, significant and salient issues facing health-care providers and administrators in the rural sector during the 1990s have made rural health-care delivery increasingly more complex and difficult to handle, while proving that it will be one of the toughest challenges that the entire American system of healthcare delivery will face in the new millennium. Solutions to rural healthcare problems are likewise illusory. The rural hospital, the bastion and central focus of rural healthcare delivery for half a century, is under siege in many areas, the most threatening being an inability to survive financially. Without the proper funding, it is impossible for these rural hospitals to deliver the quality and variety of care that concern rural patients. Furthermore, lack of funds creates different concerns for each of the stakeholders, i.e., the rural practitioners, patients, and healthcare administrators. However, the federal government has through the critical access hospital program provided funding to improve the status of rural hospitals.

**D.Martin and H.Wrigley (2002)** this study considers the problem of deriving realistic access measures between population demand and health service locations, in the context of a rural healthcare region of England. The study reviews approaches used in earlier work by the authors and others, and considers new public healthcare information systems that are now becoming available. An application is presented which incorporates the modeling of both private and public healthcare times for access to district general hospitals in Cornwall. This information has been assembled from published timetables in order to evaluate the use of more sophisticated access measures that might be used when such data becomes more generally available. The work is set within the context of an ongoing substantive research programme concerned with health outcomes in the rural south west of England.

**Thomas c. Ricketts (2000):** in this study the author says the rural healthcare system has changed dramatically over the past decade because of a general transformation of healthcare financing, the introduction of new technologies, and the clustering of health services into systems and networks. Despite these changes, resources for rural health systems remain relatively insufficient. Many rural communities continue to experience shortages of physicians, and the proportion of rural hospitals under financial stress is much greater than that of urban hospitals. The health-care conditions of

selected rural areas compare unfavorably with the rest of the nation. The market and governmental policies have attempted to address some of these disparities by encouraging network development and telemedicine and by changing the rules for medicare payment to providers. The public health infrastructure in rural America is not well understood but is potentially the most fragile aspect of the rural healthcare continuum. The character of rural health-care delivery in the 1990s has undergone significant changes caused by the rapid transformation of the U.S. Health-care system.

**WHO Report (2000)** proposes that primary health-care review can be at seven levels - national, district, health centre, community health workers, community leaders and household levels. "the main objectives of a review is to identify the strengths and weaknesses of a national programme in order to establish or adjusted priority and to make specific recommendations for future action" (WHO, 2000). Aspects to be covered in a review of primary health-care as outlined by WHO are:

"1. Health aspects

The health aspects involved an evaluation of the process, output and impact of the PHCs programme from the health sector perspective, using various indicators that reflect the results in terms of health sector performance, health activities output with respective individual programme and the health impact.

2. Social aspects

The social aspects involve an evaluation of community involvement in health, including the influence of people at all levels in bringing about better health, the outcome in terms of community satisfaction and human resources development at the community level.

3. Inter-sectoral aspects

This includes an assessment of how the contributions of other sectors, are affecting the health of the people ..... (WHO, 2000)

**WHO (1992)** opines that " in PHCs evaluations and other studies, household surveys are often the only reliable way to get crucial data for the population as a whole, such as indicators of health status, coverage of health services and essential PHCs elements (e.g., immunisation, sanitation, water supply), use of health facilities" . Informations from households shall be collected through structured questionnaire, posing questions to a well informed adult in the household during the house visit. Data will also

be obtained from visual observation. Main types of issues considered at this level would be (1) social and economic determinants including inter-sectoral action and community involvement. This can help to identify the vulnerable or under served population in the areas of economic, educational or social development using indicators such as employment, literacy, agricultural productivity, wages or income level. (2) Provision of health-care - aspects to be considered as accessibility, acceptability, affordability, quality and utilisation of services as perceived at the household level. (3) Health programme indicators - indicators related to essential components of primary health-care will be considered - health education, immunisation, nutrition, maternal and child health and other programmes.

**Kooreman, (1994).** In this study the author explains the efficiency of health-care units. A number of studies have been conducted worldwide, and a few in India, to calculate the efficiency of healthcare units. In these studies a number of input and output factors have been considered while calculating the efficiency of the unit. Many health-care studies in India and abroad have defined different input factors, such as number of doctors, number of nurses/paramedical staff, cost of supplies, and cost of high-cost technical machinery. Some of the outputs selected are number of regular ad-missions, number of surgeries, case mix categories, and number of discharges. Apart from these quantifiable factors, Kooreman states that efficiency is also a measure of some hard to quantify factors, such as improved health status or improved quality of life .

**World Bank Healthcare Report (2000).** In this study, the author reviews the impact of scheme membership on health-care financial protection in India; a two-part model was used. The first part of the model analyses the determinants of using health-care services. The second part of the model analyses the determinants of health-care expenditures for those who reported any health-care use. There are several reasons for taking this approach. First, using health expenditure alone as a predictor of financial protection does not allow capture of the lack of financial protection for people who choose not to seek health-care because they cannot afford it. As the first part of the model assesses the determinants of utilisation. This approach allows us to see whether membership in community financing reduces barriers to accessing health-care services. Second, the distribution of health expenditures is typically not a normal distribution. Many non

spenders do not use health-care in the recall period. The distribution also has a long tail due to the small number of very high spenders.

**World Bank Development Report (1993).** This study explains health-care financing policy formulation in India, many of the international agencies had failed to encourage appropriate insurance-based alternatives to fee payment at the point of use. In particular, the 1993 world development report did not make recommendations for low-income countries that would change the situation in the short to medium term. Many national and international departments and agencies now accept that the principles of health insurance are applicable to low-income populations and are willing to study examples of insurance initiatives for poor and informal households. The outcome suggests that the design of community health insurance schemes may be improved by (a) design specifications that utilize data on willingness to pay (WTP) of the target population and projected health-care costs; and (b) incorporating modalities of operations that facilitate cost-effective exchange between a formal organization and individuals acting in an informal environment.

**World Bank Report (2005):** in this report focus on improving health service delivery that have been discussed in the literature. Peabody (2006) summarizes these in the context of low- and middle-income countries:

- a. Generate and encourage the use of specific clinical algorithms based on evidence of best practice.
- b. Have service providers acquire skill and speed by doing a few things frequently rather than many things occasionally. Learning by doing is key to improving performance. This lesson is very relevant for India given the hard reality that, at least initially, the rural healthcare mission will have resources only for a limited set of high-priority items.
- c. Improve provider incentives by creating a legal and ethical environment where-care providers do not profit personally from the sale of drugs, diagnostic procedures, or provision or referral of care. Overuse and misuse of resources typically flourish in such unethical environments.

### **2.2.3. Conclusion**

This chapter discussed the literature contribution of scholars in the fields of rural health-care management, primary health-care concepts, health-care centre infrastructure development and community participation. The variables that have been used in the works are studied in-depth to carry on with the objectives framed for this study. The existing study is built on the theories of performance measurement in health-care centre primary care delivery system, availability of facility in primary health-care and therefore enough emphasis is given.

The literature, while reflecting a range of approaches to defining primary health-care quality services and community participation, has an implied agreement that it is a complex construct influenced by many factors including context, relationships and power issues. Over time, definitions of community have moved from an emphasis on tangible aspects such as geographical location and ethnicity to consideration of the more dynamic and complex interrelationships, networks, process elements and diversity. One common theme emerging from the literature on participation is the importance of power sharing for sustainability. Debate is continuing about the degree of success being experienced internationally in operationalising the emancipatory discourse of the WHO declarations.

A number of frameworks to facilitate health-care and community engagement have been presented in this chapter representing different approaches to managing structural issues, imbalances of power, skill acquisition and interdependencies. The reality of implementing policy which requires communities to be meaningfully engaged also has risks. Careful consideration of these risks, the literature suggests, will ensure the likelihood of disempowerment, project failure, conflict and disillusionment be minimised.

The next chapter looks into theoretical frame work of rural healthcare management, primary healthcare concepts and community participation. The chapter discusses the various practices, activities and methods involved in rural health-care system. The performance measurement primary health-care system concepts, its uses and how it is deployed in the health-care are discussed in a detailed manner to augment the argument in favour of the present study.

## **CONCEPTUAL FRAMEWORK OF RURAL HEALTH-CARE MANAGEMENT**

This chapter discusses the framework of rural health-care management explaining the mechanism of primary health-care centre, rural health-care policies, ASHA workers and community participation. It gives the overview of the rural health-care centre infrastructure development, health-care services delivery, health-care services Performance in rural centre and involvement in Community Participation programme. The key issues in rural health-care management of performance of health-care services are explained in detail.

### **3.1. General Management Practices.**

Managing is one of the most important human activities. From ancient times, human beings began forming social organisations to accomplish aims and objectives they could not accomplish as individuals. Managing has been essential to ensure the coordination of individual efforts. As society continuously relied on group effort, and many organised groups have become large, the task of managers has been increasing in importance and complexity. Consequently, managerial theory has become crucial in the way managers manage complex organisations. The central thesis of this study is that although some managers in different parts of the world could have achieved managerial success without having basic theoretical knowledge in management, it has to be unequivocally emphasized that those managers who have mixed management theory in their day-to-day practice, have had better chances of managing their organisations more efficiently and effectively to achieve both individual and organisational objectives. Therefore, managers of contemporary organisations sought to appreciate the important role they play in their respective organizations to achieve the set goals. Secondly, there is need to promote excellence among all persons in organizations, especially among managers themselves. To address these concerns, the study will proceed along the following spectrum: management will be defined for purposes of conceptual clarity;

management objectives, functions, goals, and essentiality will be highlighted; the importance of managerial skills and the organisational hierarchy will be sketched; the importance of women in the organisational hierarchy will be emphasised; reasons for studying management theory will be enumerated; the different management theories, the core of the study, will be discussed at length; the significance of management as a practice will be contextualised; and ‘the way forward’ in form of a conclusion will be offered.

### **3.1.1. Definition of Management**

Management is the art, or science, of achieving goals through people. Since managers also supervise, management can be interpreted to mean literally “looking over”, i.e., making sure people do what they are supposed to do. Managers are, therefore, expected to ensure greater productivity or, using the current jargon, ‘continuous improvement’.

More broadly, management is the process of designing and maintaining an environment in which individuals, working together in groups, efficiently accomplish selected aims (Koontz and Wehrich, 1990). In its expanded form, this basic definition means several things. First, as managers, people carry out the managerial functions of planning, organising, staffing, leading, and controlling. Second, management applies to any kind of organisation. Third, management applies to managers at all organisational levels. Fourth, the aim of all managers is the same – to create surplus. Finally, managing is concerned with productivity – this implies effectiveness and efficiency. Thus, management refers to the development of bureaucracy that derives its importance from the need for strategic planning, coordination, directing and controlling of a large and complex decision-making process. Essentially, therefore, management entails the acquisition of managerial competence, and effectiveness in the following key areas: problem solving, administration, human resource management, and organisational leadership.

### **3.1.2. Management as a Practice**

Managing, like all other practices – whether medicine, music composition, engineering, accountancy, or even baseball – is an art; it is know-how. It is doing things in the light of the realities of a situation. Yet, managers can work better by using the organised knowledge about management. It is this knowledge that constitutes science.

However, the science underlying managing is fairly crude and inexact. This is true because the many variables with which managers deal are extremely complex. Nevertheless, such management knowledge can certainly improve managerial practice. Managers who attempt to manage without management science must put their trust to luck, intuition, or what they did in the past.

In managing, as in any other field, unless practitioners are to learn by trial and error, there is no place they can turn to for meaningful guidance other than the accumulated knowledge underlying their practice; this accumulated knowledge is theory. For practical purposes, all managers must develop three sets of skills, namely, conceptual, technical, and human (Fleet and Perterson, 1994). Conceptual skills allow the manager to develop relationships between factors that other people may not see. Managers who have well-developed conceptual skills are able to apply different management theories to the same situation. For a manager to be technical, it implies that he or she should act professionally. Professionalism entails that the manager perform his or her duties within established procedures, rules and regulations. Any behaviour that compromises the manager's professional ethics is certainly bound to interfere adversely with the organisation's productivity. Lastly, a manager should be able to see members of the organisation as human beings who have needs and psychological feelings and emotions. These needs and feelings must be positively harnessed for the good of the organisation. Motivation of the employees, therefore, becomes a critical factor in increasing productivity.

### **3.2. Evaluating the Role of Primary Health Centres in India**

In India, Primary Health Centres (PHCs) are the cornerstone of rural health-care. They are the first port of call for the sick and an effective referral system, besides being the main focus of social and economic development of the community. It forms the first level of contact and a link between individuals and the national health system; bringing health-care delivery as close as possible to where people live and work. Each PHC is targeted to cover a population of approximately 30,000 and is charged with the responsibility of providing promotive, preventive, curative and rehabilitative care. This implies offering a wide range of services such as health, education, promotion of nutrition, basic sanitation, the provision of mother and child family welfare services,

immunisation, disease control and appropriate treatment in the event of illness or injury. The PHCs are hubs for 5-6 sub-centres that cover 3-4 villages and are operated by an Auxiliary Nurse Midwife (ANM). These facilities are a part of the three tier health-care system. The PHCs act as referral centres for the Community Health Centres (CHCs), 30-bed hospitals and higher order public hospitals at the mandal and district levels.

Primary health-care services substantially affect the general health of the population. However, many factors undermine the quality and efficiency of primary health-care services in developing countries. In India, there are many reasons for poor performance of PHCs. The deterioration in health status is attributed to inadequacies in PHC implementation, and neglecting the broader issues. Some of the factors responsible for this state of affairs include: lack of political commitment, inadequate allocation of financial resources to PHCs, stagnation of inter-sectoral strategies and community participation, bureaucratic approach to health-care provision, lack of accountability and responsiveness to the general public and incongruence between available funding and commitments.

The current PHC structure is extremely rigid - making it unable to respond effectively to local realities and needs. For instance, the number of ANMs per PHC is the same throughout the country, despite the fact that some states have twice the fertility level of others. Moreover, political interference in the location of health facilities often results in an irrational distribution of PHCs and sub-centres. Government health departments are focused on implementing government norms, paying salaries, ensuring that the minimum facilities are available rather than measuring health system performance or health outcomes. Further, the public health system is managed and overseen by District Health Officers. Although they are qualified doctors, they have barely any training in public health management. Strengthening the capacity for public health management at the district and taluk level is crucial to improving public sector performance.

The lack of accountability stems from the fact that there is no formal feedback mechanism and incentive to treat citizens as clients. Patients often complain of rude and abrupt health workers that discriminate against women and minorities and those belong to the scheduled Castes or Tribes. The lack of accountability leads to absentee doctors, as it

is difficult to attract qualified doctors to rural areas, unresponsive ANMs, inconvenient working hours and little or no community participation.

The lack of resources, which is acute in some states, is certainly a contributing factor to the poor performance of the primary health-care system. In poor states, spending levels are low while expectations for coverage remain high. The incongruence between resources and targets result in lack of medicines. The current budget for essential drugs being Rs 75,000 per annum is insufficient to cater to a large number of patients, and limited doctor salaries. In order to improve primary care services, a number of approaches are used in developing countries. Capacity building and encouraging community involvement are some of the main factors. Capacity building aims to improve the knowledge and skills of primary care professionals and community involvement improves governance and accountability of public primary health clinics, which lead to increase in drug supply and improved provider skills. A widely used mechanism to improve primary health services is to resort to contracting. Contracting improves public services by utilising the private sector's greater flexibility, to improve services and responsiveness to consumers, increases managerial autonomy, decentralises decision making of managers on the ground. It allows the government to focus less on service delivery and more on comparative advantage roles. Contracting can also improve the level of national equity as a government can create contracts that focus on delivering primary care services to vulnerable sections of the population.

Improved access to primary health-care and its gate-keeping function lead to less hospitalisation, less utilisation of specialist and emergency centres and less chance of patients being subjected to inappropriate health interventions. In low-income settings, the cost effectiveness of PHCs, compared to other health programmes, has been reinforced by World Bank findings. Selected primary health-care activities, such as infant and child health, nutrition programmes and immunization, appear to be 'good buys' compared to hospital care. Such interventions could drastically reduce the number of 'preventable deaths'. The Bamako Initiative in Benin and Guinea demonstrate that, even in resource-poor settings, it is possible to implement and sustain basic PHC services.

Thus, it is evident that the success of health systems lies in tapping the existing potential and making appropriate structural changes. The role of primary care should not

be defined in isolation but in relation to the constituents of the health system. Primary, secondary, generalist and specialist care, all have important and inclusive roles in the health-care system and should be used to create a comprehensive and integrated model: one that combines universalism and economic realism with the objective of providing health coverage for all.

### **3.3. Primary Health-Care Management**

The Primary Health-care system in India is very large and covers almost all the parts of the country. This system consumes large amount of resources and is the system which provides the services for primary care including preventive programmes. The system is mainly managed by doctors, some of whom have brief public health training. This study argues that given the lack of training for doctors in management it is imperative that the doctors who are put in charge of the PHC system receive reasonable skills and training in management so that the resources spent on the PHC system can be utilised well - in an efficient and effective manner. The study explains that despite movements towards selective packages of health-care and health-care reforms the idea of PHC as described in the Alma Ata declaration is attracting renewed interest. There are several reasons for this shortage in health workers, especially in developing country or states. In India the major thrust has been on improving the health status of children and women. Almost all the national programmes have been implemented either to control tropical diseases or are concerning maternal and child health besides family welfare. Over the years country has made substantial gains in not only improving health indicators but also developed extensive network of health-care delivery system existing throughout the country. The primary health-care has been developed to provide health-care services to the vast majority of rural people. The primary care comprises three types of health-care institutions: 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 system. Firstly, the transformative potential of strategies and approaches can make the fundamental changes necessary to improve health status. Secondly, the structures and practices of primary care sector are not necessarily compatible with notions of comprehensive primary health-care.

It is well known that doctors are technically more competent than any other supporting paramedical personnel. However, in rural India, people are more dependent on the latter. If we consider the elasticity coefficients as a measure of productivity, then in the rural health-care system Paramedical Staff are more productive than the doctors. If these coefficients are used to determine the programme's efficiency, then within the labour input category paramedical staffs perform efficiently. So, productivity or efficiency in such a rural public sector service economy does not necessarily increase with the technical qualification or education of service providers. Geographical factors, social structure, family characteristics, and quality of care also work as the main determinants of the utilisation of health-care services. Education of the acceptors is also an important factor though its impact is negative. The study reveals that as education increases, people are likely to avoid public health facilities for reproductive health related services. This may be due to poor quality of services provided at the health centres. We should also consider other qualitative factors like privacy maintained while conducting medical examination, average waiting time at the health centres, time spent by a staff with a patient, All these problems must be addressed by adopting appropriate measures. Otherwise, primary health-care system in India will lose its credibility even among poor rural people who are not in a position to utilise private health-care facilities.

### **3.4. Pillars of Primary Health-Care**

#### ***Definition***

Primary health-care is essential health-care 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 a cost that the community and country can afford to maintain at every stage of their development, in the spirit of self reliance.

The Alma-Ata declaration was the collective statement of 134 countries at an international conference hosted by the WHO or UNICEF. It was declared that "Health for All" should be promoted and this would be achieved if it is based on the implementation of PHC.

Based upon the Alma Ata declaration, primary health-care can be said to consist of seven core issues:

- 1. Foundation of the Health System:** PHC is the first level of contact of individuals, the family and community with the national health system. It brings health-care as close as possible to where people live and work, and constitutes the first element of a continuing health-care process.
- 2. Priorities:** This addresses the main health problems in the community, providing promotive, preventive, curative and rehabilitative services accordingly.
- 3. Science/ Evidence-Based:** PHC should be based on the application of the relevant results of social, biomedical and health services research and public health experience.
- 4. Culture Sensitivity/ Social Relevance:** PHC system of health-care delivery is a system of socially acceptable methods and technology and it reflects and evolves from the economic conditions and socio-cultural and political characteristics of the country and its communities.
- 5. Equity and Social Justice:** This is an integral part of the PHC system, that health-care should be made universally accessible to individuals and families in the community.
- 6. Community Participation:** A system in which the people have the right and duty to participate individually and collectively in the planning and implementation of their health-care. This requires and promotes maximum community and individual self-reliance and participation in the planning, organization, operation and control of primary health-care.
- 7. Sustainability and Self-reliance:** Health-care should be at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.

### **3.5. PHC Component Services**

The ideal health services based on PHC, in line with the PHC components, include:

1. Education concerning prevailing health problems and the methods of preventing and controlling them.
2. Promotion of food supply and proper nutrition.
3. An adequate supply of safe water and basic sanitation.

4. Maternal and child health-care, including family planning. In this context, family planning refers to services offered to couples to educate them about family life and to encourage them to achieve their wishes regarding:
  - i. Preventing unwanted pregnancies
  - ii. Securing desired pregnancies
  - iii. Spacing of pregnancies and
  - iv. Limiting family size in the interest of the family, health and socio-economic status.
5. Immunization against the major infectious diseases
6. Prevention and control of locally endemic and epidemic diseases
7. Appropriate treatment of common diseases and injuries
8. Provision of essential drugs and supplies.

### **3.6. The Accredited Social Health Activist (ASHA) Programme**

The Accredited Social Health Activist (ASHA) Programme is the major bedrock of the NRHM and aims to select, train and support a community-based change agent for at least every cluster of 1000 people in rural areas. This Community Health Volunteer is expected to be a locally selected woman who will catalyse a community-based process of behavioural change and facilitate better access to basic health services for poor households. She will disseminate knowledge, create awareness about health issues and their social determinants, engage closely with pregnant women, and other household members to negotiate, adopt appropriate care practices, mobilise community to participate in local health planning, and increase the utilisation and accountability of existing health services. In addition to her primary role as a promoter of desired health practices, she could also provide a minimum package of curative care as appropriate and feasible for her profile and make timely referrals.

In recent times, Community Health Workers (CHWs) have received renewed attention, both nationally and internationally, as research has established and emphasised the effectiveness of community strategies and household-level practices in promoting child survival and development. The study reveals, for instance, that collectively, three largely preventable and treatable causes - diarrhoea, pneumonia and a limited set of neonatal conditions - account for 82 percent of all child deaths and that malnutrition is an

underlying cause in around 52 percent of all cases. A number of household practices, such as improved nutrition and care during pregnancy, providing warmth and hygienic care to infants, breastfeeding and complementary feeding, the use of Oral Rehydration Salts (ORS), hygienic practices during food preparation, the use of insecticide treated bed nets for pregnant women and young children can have a significant impact on child mortality and malnutrition. As individual interventions, breastfeeding and ORS are especially effective, taken alone, they are each capable of averting 16 percent and 14 percent respectively of all child deaths in India. Most strikingly, analysis presented in The Lancet Child Survival Series, estimates that actions taken at the household and family level alone can prevent over 30 percent of child deaths and a similar proportion (up to 37 percent) of neonatal deaths. Aware and vigilant families are also more likely to ensure that their children get prompt and appropriate facility-based clinical care, further contributing to reduction in mortality cases. This is, therefore, clearly a priority area in high mortality resource poor settings and requires investment in creative, contextual and decentralized strategies to work with families and communities. In this context, CHWs, such as those who are currently joining the ASHA Programme, have a vital role to play. From a review of a range of past experiences, we have learned that wherever Community Health Workers have been appropriately identified, trained and supported, health and nutrition indicators have dramatically improved.

In addition to drawing strength from the latest scientific research, the ASHA Programme also builds on a rich history of civil society innovation in community health in India and in many other developing countries and is an attempt to translate earlier experiences and insights, a majority of which have emerged from smaller field-level initiatives, into large-scale processes of community participation in and ownership of health knowledge and services. Here, the critical challenge is to conceptualise and implement state-wide CHW programmes in regions with very weak health systems. Creating a space for such an activist - within the community, within the programme, and within the public health system - requires flexibility to both the community's and individual's needs, as well as commitment to providing continuous inputs and supportive structures. Most importantly, the health activist should occupy a unique position, one that is based in the community and yet has access to knowledge and resources from the larger

programme. At this stage in particular, when states such as Bihar, UP, AP and MP have already selected thousands of ASHAs across the districts, the quality of ASHA training and ongoing support must be accorded greater priority.

### **3.6.1. Coordination with Community by ASHA/AWWs**

Currently, Anganwadi Workers (AWWs), under the Integrated Child Development Scheme (ICDS), are engaged in organising supplementary nutrition programmes and other supportive activities. The very nature of their responsibilities (with emphasis on supplementary feeding and pre school education) do not allow them to take up the responsibility of change agents on health in their villages. Thus, a new band of community based functionaries, named as Accredited Social Health Activist (ASHA), is proposed to fill this void. ASHA will be the first port of call for any health related demands of the deprived sections of society, especially women and children, who find it difficult to access health services. It has been envisaged that states will have flexibility to adapt these guidelines keeping their local situations in view.

ASHA will be a health activist in the community who will 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 good health practices. She will also provide a minimum package of curative care as appropriate and feasible for that level and make timely referrals. ASHA's roles and responsibilities would be as follows:

1. To take steps to create awareness and provide information to the community on determinants of health such as nutrition, basic sanitation & hygienic practices, healthy living and working conditions, information on existing health services and the need for timely utilisation of health & family welfare services.
2. To counsel women on birth preparedness, importance of safe delivery, breastfeeding and complementary feeding, immunisation, contraception and prevention of common infections including Reproductive Tract Infection/Sexually Transmitted Infection (RTIs/STIs) and care of the young child.
3. To mobilise the community and facilitate them in accessing health and health related services available at the village/sub-center/primary health centres, such as

- Immunisation, Ante Natal Check-up (ANC), Post Natal Check-up (PNC), ICDS, sanitation and other services being provided by the government.
4. To work with the Village Health & Sanitation Committee of the Gram Panchayat to develop a comprehensive village health plan. ASHA will arrange escort/accompany pregnant women and children requiring treatment/ admission to the nearest pre-identified health facility, i.e., Primary Health Centre/ Community Health Centre/ First Referral Unit (PHC/CHC /FRU).
  5. To provide primary medical care for minor ailments such as diarrhoea, fevers, and first aid for minor injuries. ASHA will be a provider of Directly Observed Treatment Short-course (DOTS) under Revised National Tuberculosis Control Programme.
  6. Will also act as a depot holder for essential provisions being made available to every habitation like Oral Rehydration Therapy (ORS), Iron Folic Acid Tablet (IFA), chloroquine, Disposable Delivery Kits (DDK), Oral Pills & Condoms, etc. A Drug Kit will be provided to each ASHA. Contents of the kit will be based on the recommendations of the expert/technical advisory group set up by the Government of India.
  7. ASHA's role as a provider can be enhanced subsequently. States can explore the possibility of graded training to her for providing newborn care and management of a range of common ailments particularly childhood illnesses.
  8. To inform about the births and deaths in the village and any unusual health problems/disease outbreaks in the community to the Sub-Centres/Primary Health Centre.
  9. To promote construction of household toilets under Total Sanitation Campaign.
  10. Fulfillment of all these roles by ASHA is envisaged through continuous training and upgradation of the skills, spread over two years or more.

### **3.6.2. Accredited Social Health Activists**

1. Every village/large habitat will have a female Accredited Social Health Activist (ASHA) -chosen by and accountable to the panchayat- to act as the interface between the community and the public health system. States to choose State specific models.

2. ASHA would act as a bridge between the ANM and the village and be accountable to the Panchayat.
3. She will be an honorary volunteer, receiving performance-based compensation for promoting universal immunisation, referral and escort services for RCH, construction of household toilets, and other health-care delivery programmes.
4. She will be trained on pedagogy of public health developed and mentored through a Standing Mentoring Group at the National level incorporating best practices and implemented through active involvement of community health resource organisations.
5. She will facilitate preparation and implementation of the Village Health Plan along with Anganwadi workers, ANM, functionaries of other Departments, and Self-Help Group members, under the leadership of the Village Health Committee of the Panchayat.
6. ASHA personnel will be positioned all over the country, with special emphasis on the 18 high focus States. The Government of India will bear the cost of training, incentives and medical kits. The remaining components will be funded under Financial Envelope given to the States under the programme.
7. She will be given a Drug Kit containing generic AYUSH and allopathic formulations for common ailments. The drug kit would be replenished from time to time.
8. Induction training of ASHA to be of 23 days in all, spread over 12 months. On-the-job training would continue throughout the year.
9. Prototype training material to be developed at National level subject to State level modifications.
10. Cascade model of training proposed through Training of Trainers including contract plus distance learning model.
11. Training would require partnership with NGOs/ICDS Training Centres and State Health Institutes.

### **3.7. Infrastructure Improvement in Health-Care Centres**

The public health infrastructure of India has been growing since independence, but it is yet to match the basic health-care facilities in many other countries. While in

1947 the number of hospital beds was 3.2 per 10,000, the present number is 9 per 10000. This number is commendable, but still far behind that of other developing countries. The health-care system consists of primary, secondary and tertiary health-care centres, and the focus of public health-care has been on Primary health-care [NRHM], as well as centres providing health-care services and education.

Health is a state responsibility. However the central government does contribute in a substantial manner through grants and centrally sponsored health programmes/schemes. Various public health schemes taken out by the central government include the Rashtriya Swasthya Bima Yojana which provides health insurance to poor families who are unable to afford medical care or hospitalisation or cannot afford private medical insurance. As a part of the public health-care scheme, there are a number of hospitals which offer free services to the poor who are unable to pay for their treatment. The health system infrastructure needed for primary health-care encompasses the physical structures and the functional capacities needed to support all primary health-care activities. This includes health services infrastructure, such as facilities, including equipment; supplies and communications; health manpower, including education, training and supervision; planning, management and evaluation, financing information systems, including health surveillance and programme monitoring, and possibly action-oriented research. It is the infrastructure which makes it possible to assess the population's health problems, to extend health-care to communities and to people and groups with special needs, to ensure that manpower is deployed according to need, and to monitor the effectiveness of programmes. The health sector and the primary health-care system has been managed mainly by the shallow structure of government health-care facilities and other public health-care systems in a traditional model of health funding and provision till now in India. But, it is unable to justify the demand for health security by over 200 million of the health insurable population in India, mainly due to service costs being out of reach to many people, absence of good and effective number of physicians, low rate of education programmes, less number of hospitals, poor medical equipment and, above all, the poor budget of government towards the health programmes.

**Public Health-Care Infrastructure between 1950 and 2009.** The rural health-care infrastructure has gone up from 725 facilities to more than 1,63,000 (Mavalankar &

Ramani, 2005) consisting of 4,510 rural sub district hospitals (known as community hospitals-CHCs). Today, 24,000 primary health-care centres and 1,46,036 sub health centres exist. , Yet there is a shortfall of 16% in the number of primary health-care centres and sub health centres and high as 58% in the case of community health-care centres. Public health-care infrastructure is far from satisfactory as the delivery of services is hampered by several policy and management constraints. Of particular concern are the following:

1. Non availability of staff
2. Weak referral system
3. Recurrent funding shortfalls
4. Lack of accountability for quality of care
5. Poor logistic management of medicine and drugs

The utilization of massive public health--care infrastructure is abysmally low. Availability and access to public health facility is very poor for women, children and the socially disadvantaged sections of our society. The past unsatisfactory performance of our public health-care system in rural area is forcing even the poor to seek health-care from the private sector. In the study, only 20% of out patients and 45% -of inpatients availed the benefits from government health-care infrastructure while the rest obtained this from private sources. In Andhra Pradesh, public health-care infrastructure comprises of 164 rural sub district hospitals (called community hospitals-CHCs), 1570 primary health-care centres and 12522 sub health centres. There still remains a severe shortage of sub-centres, primary health centres, and community health centres. Lack of adequate health-care is also reflected in the low density of health-care personnel. The public health-care delivery system consists of a large number and a variety of institutions dispensaries, primary health-care institutions..; Primary health-care services represent a crucial entry point into the health-care system. The adjusted primary care staffing ratio - the ratio of population to full-time equivalent (FTE) primary care physicians in direct service - provides an index of the availability of primary care. State's health-care services infrastructure delivers acute, primary, specialty, and long-term care. Infrastructure allows, but does not guarantee, access to services. The country has created a vast public health infrastructure of Sub-centres, Public Health Centres (PHCs) and Community Health

Centres (CHCs). There is also a large cadre of health-care providers (Auxiliary Nurse Midwives, Male Health workers, Lady Health Visitors and Male Health Assistants). Yet, this vast infrastructure is able to cater to only 20% of the population, while 80% of health-care needs is still being provided by the private sector. Rural India is suffering from a long-standing health-care problem. The district health systems based on primary health-care provides an excellent practical model for health development, including an appropriate health system infrastructure. Within this model, the concerns with accelerating the application of known and effective technologies and the concerns with strengthening of community involvement and inter-sectoral action for health are both accommodated. The district health system provides a realistic setting for dialogue and planning involving both professionals and non-professionals involved in health and social development.

### **3.7.1. Strengthening Primary Health Centres (PHCs)**

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

1. Adequate and regular supply of essential quality drugs and equipment (including Supply of Auto Disabled Syringes for immunisation) to PHCs
2. Provision of 24 hour service in at least 50% PHCs by addressing shortage of doctors, especially in high focus States, through mainstreaming AYUSH manpower.
3. Observance of standard treatment guidelines and protocols.
4. In case of additional outlays, intensification of ongoing communicable disease control programmes, new programmes for control of non-communicable diseases, upgradation of 100% PHCs for 24 hours referral service, and provision of a second doctor at PHC level (1 male, 1 female) would be undertaken on the basis of felt needs.

### **3.7.2. Strengthening Sub-Centres (SC)**

1. Each sub-centre will have an Untied Fund for local action @ Rs. 10,000 per annum. This Fund will be deposited in a joint Bank Account of the ANM and Sarpanch and operated by the ANM, in consultation with the Village Health Committee.

2. Supply of essential drugs, both allopathic and AYUSH, to the Sub-centres.
3. In case of additional outlays, Multipurpose Workers (Male)/ Additional ANMs wherever needed, sanction of new Sub-centres as per 2001 population norms, and upgrading the existing sub-centres, including buildings for sub-centres functioning in rented premises will be considered.

### **3.7.3. Strengthening Community Health Centres (CHCs) for First Referral Care**

1. Operationalising the existing 3,222 Community Health Centres (30-50 beds) as 24 hour First Referral Units, including posting of anaesthetists.
2. Codification of new Indian Public Health Standards setting norms for infrastructure, staff, equipment, management, etc., for CHCs.
3. Promotion of Stakeholder Committees (Rogi Kalyan Samitis) for hospital management.
4. Developing standards of services and costs in hospital care.
5. Develop, display and ensure compliance to Citizen's Charter at CHC/PHC level.
6. In case of additional outlays, creation of new Community Health Centres (30-50 beds) to meet the population norms as per Census 2001, and bearing their recurring costs for the Mission period could be considered.

### **3.8. Health-care in India: rural development**

India has made significant progress in improving health-care, but there are huge challenges in extending basic services to the rural population. Of all the challenges India faces, improving access to basic health-care is a major issue. It is perhaps one of the most pressing ones from the human development perspective, as well as to ensure a solid foundation for future economic growth. Despite India's dazzling recent economic performance, widespread poverty means that malnourishment and communicable diseases remain serious problems. Health-care indicators vary widely across states, partly reflecting the differing levels of resources available to state governments, but one trend that is totally consistent is that indicators are much worse in rural areas than in urban ones. The problem is, first and foremost, one of access. India has a rudimentary network of public hospitals and clinics. In any case, the government estimated there was a shortage of 4,803 primary health centres and 2,653 community health centres in 2006, but the issue is particularly acute in rural areas. Public hospitals are rare outside of large

cities a significant problem in a country where some two-thirds of the population still live in the countryside. According to a study conducted by the Confederation of Indian Industry, the formal health-care system reaches only about 50% of the total population. India is also desperately short of doctors, with only 645,825, or 0.6 per 1,000 people, in 2004, according to the World Health Organisation (WHO). Many locally trained physicians are tempted abroad by better pay and prospects. Moreover, health-care workers who do remain in India prefer the cities where job prospects and wages are better, resources are greater and the quality of life is far higher. The current Indian National Congress-led government has made the provision and availability of primary health-care to all one of seven policy priorities under its-so called “common minimum programme” designed to cater to the “aam admi” (“common man”). In other words, the main objective of government health policy is merely to achieve an acceptable standard of health among the general population. Its spending in this area is lavish, as can be seen from the figures below:

1. Rs67.1bn (US\$1.3bn) for the WHO Child Growth Standards programme, which monitors child growth under the Integrated Child Development Scheme
2. Rs74bn (US\$1.4bn) for the Rajiv Gandhi Rural Drinking Water Mission, which supplies clean drinking water to the least well-off homes in rural areas
3. Rs12bn (US\$233m) for the Total Rural Sanitation programme
4. Rs120bn (US\$2.3bn) for the National Rural Health Mission, which “aims to bring about uniformity in quality of preventive and curative health-care in rural areas across the country”

In addition, the interim budget allocated Rs409bn (US\$7.9bn) to Bharat Nirman, the government’s flagship rural infrastructure programme. The scheme includes funding for improving supplies of drinking water alongside more conventional infrastructure issues like roads, housing and telephone.

### **3.9. Health-Care Community Participation Development**

One of the most defining events in the global public health arena that gave community participation a prominent place in public health was the WHO and UNICEF sponsored conference on primary health-care (PHCs) at Alma Ata in 1978. The Alma Ata Declaration defined PHC 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 through their full participation and at a 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, Alma Ata Declaration,1978). Some of the principles adopted at Alma Ata were proposed much earlier in the Bhore Committee Report 1946 that guided the formulation of the Indian National Health Policy 1983 (Deodhar, 1982). Following the Alma Ata conference, other developments, such as the Ottawa Charter (1986) and Agenda 21 (1992), have helped place community participation high on the political and public agendas of nations.

The emphasis on community participation ushered a paradigm shift in health planning and health-care delivery that called for the involvement of the community in both decision making and delivery of health services most appropriate to them. The ‘Health for All by the Year 2000’ campaign of the WHO having community participation at its core, led to the adoption of this concept by many countries as the means by which important health problems could be addressed. Further, national efforts emerged to establish and strengthen mechanisms for community participation in health through social policy, legislation and other public means (Oakley, 1989).

### **3.9.1. What is Community Participation**

The term community participation has become so confused that it can mean anything from consultation of a few select power-holders, to citizen empowerment through developing responsibilities and decision-making options to local citizens (Smith, 1991). Studies have shown that: different people tend to understanding the concept differently and planners, even those in the same programme, have defined community participation in different ways (Rifkin, 1986). One practical way is to look at community and participation separately and then applying that understanding in defining the concept as ‘a process by which people are enabled to become actively and genuinely involved in defining the issues of concern to them, in making decisions about factors that affect their lives, in formulating and implementing policies, in planning, developing and delivering services and in taking action to achieve change’ (WHO, 2002). An essential understanding is that effective community participation in health entails a side-by-side

involvement of community members with health-care professionals and a responsible sharing of both power and responsibility.

### **3.9.2. Community Involvement in Rural Health-Care Management**

The term 'community participation' is commonly understood as the collective involvement of local people in assessing their needs and organising strategies to meet those needs. There has been evidence to suggest that health and medical services have not made any remarkable improvement for a majority of the people in developing countries. For this reason, the idea of community participation was initiated by both health planners and field workers who are responsible for the implementation of the health-care services. Nevertheless, in other areas of human life, the concept of community and neighbourhood, centre for community action has remained popular embodying within its statute a philosophy of strengthening family or community life. In fact, the idea is as old as community's life and the members of the community while using the local resources can also solve their problems. Therefore, the idea of community participation can be consciously stimulated through educational and other means which is of recent origin. The stress on community participation is, in fact as recognition of the people who constitute the most important resource of any country and this very resource remains untapped till now. The term 'community participation', as commonly understood, as the collective participation in rural health service development is uncontested. According to the national goal, a minimum level of health that would permit every citizen to lead an economically productive and socially useful life is to be achieved by 2000 AD through primary health-care approach. For this purpose, at least eight essential components of primary health-care are to be implemented. These are:

1. Education of the people about prevailing health problems and the methods of preventing and controlling them;
2. Promotion of food supply and proper nutrition;
3. Adequate supply of safe water and basic sanitation;
4. Maternal and child health-care and family planning;
5. Immunisation against major infectious diseases;
6. Prevention and control of locally endemic diseases;
7. Appropriate treatment of common diseases and injuries; and

8. Provision of essential drugs.

For successful implementation of these components, organization of the following eight types of supportive activities will be very important:

1. Community involvement and participation
2. Intra- and inter-sectoral coordination
3. Development of effective referral support
4. Development and mobilization of resources
5. Involvement of managerial processes
6. Health manpower development
7. Medical and Health Services Research including innovative Approaches
8. Development and application of appropriate technology.

"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."

### **3.9.3. Dimensions of Community Participation**

From the available experiences, it is observed that the community may be involved in a variety of ways as noted below:

1. The services may be organised on a community basis with wide and easy access of the people to the services provided,
2. The community may contribute to the operation and maintenance of services.
3. The community may participate in planning and managing the services.
4. The community may make inputs into overall policies, strategies, and work plan of the programme.
5. The community may help in overcoming factionalism and interest conflicts in the community and promote emergence of a cohesive group capable of engaging in cooperative efforts for the benefit of all.

### **3.9.4. Advantages of Community Participation in Primary Health-care**

1. A group of people belonging to the same entity and having a common perception of collective needs and priorities, and the ability to assume responsibilities for

decisions made within the community can play an important role in community participation.

2. Experience from within the country, as well as from different parts of the world, has clearly demonstrated that community participation can make significant contributions to bringing about greater development in areas including health of the citizens.
3. It increases understanding of the user-perspective in the management of health. The members of the community, who are chosen by the community and are appropriately trained, act as frontline workers being in direct contact with the beneficiaries. It also renders the services more accessible and acceptable to the people.
4. It promotes and strengthens self-reliance in matters of delivery of health services. The community may be able to mobilise human, financial and material resources to supplement the extra-community resources being provided by the governmental or non-governmental agencies. This minimises the sole dependence of the community on professional and bureaucratic structures. Participation also develops a sense of responsibility for the health-care programme.
5. For the organisation of the preventive and promotive aspects of primary health-care, the people in the community are the main actors.
6. Various non-health sectors contribute significantly to health development. The integration and coordination of different sectoral activities, necessary for making an adequate and sustained impact on health, can be brought about only at the community level through community actions and organisation. Community participation in health can act as a catalyst for further developmental efforts.

### **3.9.5. Community Participation – Limitations and Challenges**

It is important to understand that community participation is a dynamic process and there exist a host of influencing factors or determinants that can dictate the nature of outcomes of development or health programmes and their sustainability. Planners and professional development actors need to understand that in community participation, the emergence of issues from the community is a dynamic process where goals and strategies

change over time (Hunt, 1990). The existing socio-cultural, political and economic environments within a community are likely to affect the degree of participation, the sustainability of which can be achieved only as long as the relevant actors remain committed (Morgan, 2001). For instance, formation and cohesion of SHGs may be affected in countries with prevailing vertical and hierarchical social structures (India, Bangladesh). Further, communities entrenched in caste, class and gender hierarchies are likely to limit women's participation in health (Lahiri-Dutt and Samanta, 2002) and may well affect participation by minority groups. Poverty is another issue that restricts people from participating in decisions that affect their health (Macfarlane et al, 2000). Hence, having an understanding about the underlying issue/s within a given context may benefit programme planners in improving the prioritisation and planning process, while engaging with the community.

In community participation, there is also a risk of conflict if the community's expectations clash with professional attitudes and behaviour of bureaucratic structures (Hunt, 1990), thus lessening the chance of success of a programme. This raises another issue of community ownership, an essential requirement, the absence of which can lead to failure or non-achievement of programme objectives. "Community ownership means that local people must have a sense of responsibility for and control over programmes promoting change so that they will continue to support them after the initial organising effort" (Flynn, 1995,). A case to note is the *Life Abundant Programme* sponsored primary health-care project in rural Cameroon that became sustainable due to the community assuming ownership and leadership of the project (Eliason, 1999). In some countries, structural, economic and social constraints may limit the extent and capacity of communities to participate in health or development programmes. As seen in Niger, social constraints, such as the lack of knowledge and access to health-care by the community people, were some of the obstacles that Acute Flaccid Paralysis (AFP) surveillance programme faced (Ndiayeet, 2003). A study by Cruz, et al (2003) taking a case in Nepal, showed that, even though it was possible to overcome constraints like poor health knowledge and skills through training and capacity building of community health volunteers, another constraint (weak health system) hindered the extent of progress of the intervention that overcame the first constraint.

### 3.9.6. Community Participation and Health-Care Service Delivery

Essential to the well-being of all people are the effective delivery of basic services such as health, education, water and sanitation. Accessible, quality services contribute to the achievement of the Millennium Development Goals and to the achievement of human rights. Yet, widespread evidence shows that services are falling short of the needs of poor people in a large number of countries - with negative impacts on human development outcomes. In addressing the failure of services, one key point is that the failure of services is not just technical. It is the result of the lack of accountability of public, private and non-profit organisations to poor people.

As set out in the 2004 World Development Report, “Making Services Work for Poor People”, it is possible to assess and approach service delivery through an accountability model for service delivery that includes three groups of stakeholders: (i) citizens, as clients, influence policymakers; (ii) policymakers influence service providers; which in turn (iii) deliver services to the citizens who are also clients of the services.



Sources: (Ndiayeet, 2003)

Service delivery failures result when any of these relationships break down. For instance, service failures may occur when citizens are unable to influence public action through the long route of accountability (break on the left side of the triangle), when there is non-payment of salaries to service providers (break on the right side of the triangle) or when there are difficulties in implementing services, such as poorly trained or absent teachers, part of the short route of accountability (break on the bottom of the triangle).

Community participation as a concept focuses on the idea that involving stakeholders in decision-making about their communities and broader social issues has important social, economic and political benefits. In the 1980s and 1990s, for a variety of reasons, public sector donors, policymakers, as well as both Northern and Southern NGOs, emphasised the value and potential benefits of participatory approaches. Their interest in participation emerged from a range of concerns: failures in state-led development. The risk with an approach to economic development or service delivery that focuses too much on ‘community participation’ is that it may idealise the internal coherence and solidarity in communities, and miss the essential tasks of supporting effective, accountable and transparent public institutions. Community participation processes include an identification of stakeholders, establishing systems that allow for engagement with stakeholders by public officials, and development of a wide range of participatory mechanisms. Stakeholders are individuals who belong to various identified ‘communities’ and whose lives are affected by specific policies and programmes, and/or those who have basic rights as citizens to express their views on public issues and actions. The proponents of participatory approaches highlight the value of engagement with stakeholders in terms of greater local ownership of public actions or development projects, as well as the potential.

Each local context reflects the dynamics between various groups that help determine how inclusive and exclusive, conflictive or cooperative, community relations tend to be. For example, recent research in Indonesia found that the relative trust that communities in Eastern Java had in local government, and the relative lack of local conflict between communities and different identity groups meant less interest in participation. In other parts of Indonesia, however, the differences of identity and in-migration led to mistrust and conflict dynamics that heightened after the 1997 financial crisis. In India, there are notable differences in community level interactions that connect with political dynamics, as outlined in an essay on Kerala, Andhra Pradesh and Uttar Pradesh. Among the key goals of community participation to be assessed through the previous studies in this research are: improving technical efficiency; improving allocative efficiency; and improving mechanisms of accountability. Community participation initiatives are related to technical efficiency through such areas as

overcoming information asymmetry, providing communities with information on quality through various forms of Monitoring and Evaluation, and ensuring that resources are spent for necessary technical resources by service providers. Improving various dimensions of allocative efficiency includes: greater attention to the priorities of communities, increased transparency on budgets and public resources through such mechanisms as public budgeting and Public Expenditures Tracking systems, and a subsequent reduction on ‘rent seeking’ by those in positions of power. Finally, improving accountability involves creating increased transparency from community involvement with public sector agencies, community participation in school management, and community participation in public hearings.

### **3.10. Health-care Utilisation in Rural Andhra Pradesh (Rajiv Aarogyasri Community Health Insurance Scheme (RAS))**

The Government of Andhra Pradesh has invested in the Rajiv Aarogyasri Community Health Insurance Scheme as a means to reduce burdensome health expenses incurred by the state’s below-the-poverty-line population. Among the many challenges India faces in improving the health of its population is lowering the financial burden of seeking health services. Out-of-pocket spending on health is the dominant form of health-care financing in India and reaches inordinately high levels. Households with members requiring hospital care face financial catastrophe: the cost of hospitalization in India has been estimated to reach almost 60% of individuals’ total annual expenditures – with around 40% of individuals, nationwide, borrowing money or selling assets to pay for expenses – and results in almost one-quarter of those hospitalized falling below the poverty line (BPL) (Peters, 2002). In 2004, only the richest 20% of urban households spent less than 10% of income on health (a twofold increase compared to the previous decade) and around 40% of low-income residents – urban or rural – who do not seek care cite financial hardship as the primary driver for that decision (Yip & Mahal, 2008). There are many drivers of such a high degree of financial risk to patients in India. One factor is that insurance or other forms of pre-payment, which might lower the financial burden of seeking health-care, are not yet well-developed in India. The second is lack of accessibility to “free” care available through the public system’s primary health-care network. For decades, the government vastly underfunded India’s public health system

(spending just 1% of the GDP on health) and currently only one-third of that spent by other lower-middle income countries (WHO, 2008), which has resulted in an “ailing” primary care system (Peters, 2002; De Costa & Diwan, 2007; Yip & Mahal, 2008; Dalal & Dawad, 2009). Despite a renewed commitment to investment in primary care structures under the National Rural Health Mission (NRHM), widespread shortages of skilled health-care professionals at lower-level facilities remain, while poor governance, including historic lack of financial investment and poor supervision, contribute to poor quality of services provided, shortages of drugs, and high levels of staff absenteeism (MOHFW, 2007; Yip & Mahal, 2008). Which is due in large part to the long-standing “benign neglect” of the public system – is dominance of the private sector and heavy reliance on higher-level health facilities. Over three-quarters of health expenditures take place in private facilities (De Costa & Diwan, 2007), and even the poor – who frequent public primary health centres (PHCs) to a greater extent than the rich for outpatient care – still seek care in private facilities almost 80% of the time (Peters, 2002). As the public sector provides the bulk of primary care among licensed providers and with 75% of physicians working in private compared to public facilities (National Health Profile, 2008), heavy reliance on the private sector results in patients not only paying out-of-pocket for services, but doing so in higher-cost facilities (e.g., private hospitals).

In 2007, the Government of AP (GOAP) introduced the Rajiv Aarogyasri Community Health Insurance Scheme (RAS) to address this constellation of factors and reduce the financial burden of spending on health to the state’s poorest citizens. The GOAP introduced RAS as a major part of the Rajiv Health Mission, a programme to improve access of BPL families to treatment for specified diseases that require hospitalisation and/or are relatively expensive to treat (i.e., all procedures covered are emergency/life-saving in nature and require specialist physicians and/or equipment not available in most district government hospitals). Currently covering almost 950 surgical procedures and therapies through an established network of health-care providers (primarily private), the GOAP fully finances the scheme which is implemented by the Star Insurance Company under a public-private partnership framework. All members of BPL families – who are identified based on the state’s previously existing ration card systems – are eligible as beneficiaries with an annual benefit per family of Rs 2 lakh

(BPL families may also receive additional funds in certain cases in which costs exceed the maximum benefit). Importantly, it is an entirely cashless system from the point of view of beneficiaries: the modest annual premium of Rs 400 is paid for by the state government and approved care is provided for free at the point of service.

There are indications that the roll-out of RAS has significantly diminished barriers to BPL patients in accessing high-cost health-care. An unpublished evaluation conducted in 2009 indicated that, as of September, 2008, the benefits of RAS had been availed of by approximately 11% of the BPL population in AP and appeared to particularly benefit those living in rural areas, with 87% of beneficiaries having rural addresses (almost 15% above the state average). Beneficiaries overwhelmingly reported satisfaction with RAS, and close to 90% reporting improvement following treatment of their conditions (most common conditions treated were cardiac, cancer and neurological interventions). However, the evaluation also noted wide variations in claims paid for individual procedures covered by the RAS and that more than one-half of interventions financed by the RAS took place in less than 10% of participating RAS network hospitals (located primarily in AP's four largest cities). It was additionally noted that patients in AP spent on an average Rs 10,085 for hospitalisations in urban settings and for a wide range of conditions that, in large part, are not covered by RAS (IIPH-Hyderabad, 2009).

### **3.11. Mobile Based Primary Health-care System for Rural India**

Access to health-care and equitable distribution of health services are the fundamental requirements for achieving the Millennium Development Goals and the goals set under the National Rural Health Mission (NRHM) launched by the Government of India in April 2005. Many areas in the Country, predominantly tribal and hilly areas, even in well-developed States, lack basic health-care infrastructure limiting access to health services at present. Over the years, various initiatives have been taken to overcome this difficulty with varied results. Many States/NGOs have successfully tried out operationalising Mobile Medical Units. Taking health-care to the doorsteps is the principle behind this initiative and is intended to reach underserved areas. Under the NRHM, provision of Mobile Medical Unit (MMU) in each District is one of the strategies to improve access. For North Eastern States, due to their difficult hilly terrain, non-approachability by public transport, long distances for reaching the health centres

necessitate the need of MMU with specialised facilities for the patients requiring basic specialist examination. Otherwise, the basic purpose of taking the health-care to the door step of the needy people in rural areas would be defeated due to difficulties in conducting diagnostic examination. The States are expected to address the diversity and ensure the adoption of the most suitable and sustainable model for the MMU to suit their local requirements. States are also required to plan for long term sustainability of the intervention. Every Mobile Medical Unit has to provide the following services:-

**3.11.1. Curative:**

1. Referral of complicated cases; Early detection of TB, Malaria, Leprosy, Kala-Azar, and other locally endemic Communicable diseases and non-communicable diseases, such as hypertension, diabetes and cataract cases, etc.;
2. Minor surgical procedures and suturing;
3. Specialist Services such as O&G Specialist, Paediatrician and Physician.

**3.11.2. Reproductive & Child Health Services:**

1. Ante-natal check up and related services e.g. injection - tetanus toxoid, iron and folic acid tablets, basic laboratory tests such as haemoglobin, urine for sugar and albumin and referral for other tests as required;
2. Referral for complicated pregnancies;
3. Promotion of institutional delivery;
4. Post-natal check up;
5. Immunization clinics (to be coordinated with local Sub-centres/PHCs);
6. Treatment of common childhood illness such as diarrhea, ARI/Pneumonia, complication of measles etc.;
7. Treatment of RTI/STI;
8. Adolescents care such as lifestyle education, counseling, treatment of minor ailments and anemia etc.

**3.11.3. Family Planning Services:**

1. Counselling for spacing and permanent method;
2. Distribution of Nirodh, oral contraceptives, emergency contraceptives;

### **3.12. Primary Health-Care Services in India.**

In India, although there are many reasons for poor PHC performance, accessibility is one of the major obstacles. The public health system is managed and overseen by District Health Officers. Although qualified doctors may be available, PHCs have barely able to adequately utilise their services due to non-usage of IT and mobile access. The rural primary public health infrastructure has recorded an impressive development during the last 50 years of independence. The network consists of 1, 45,000 sub-centres, 23,109 primary health centres and 3,222 community health centres, catering to a population of 5000, 30,000 and 1, 00,000 respectively (and 3000, 20,000 and 80,000 population in tribal and desert areas). Each PHC is targeted to cover a population of approximately 25,000 and is charged with the responsibility of providing promotive, preventive, curative and rehabilitative care. This implies offering a wide range of services, such as health education, promotion of nutrition, basic sanitation, the provision of mother and child family welfare services, immunisation, disease control and appropriate treatment for illness and injury. Each PHC is the hub for 5-6 sub-centres that cover 3-4 villages and are operated by an Auxiliary Nurse Midwife (ANM). These facilities are a part of the three tier health-care system; the PHCs act as referral centres for the Community Health Centres (CHCs), 30-bed hospitals and higher order public hospitals at the taluka and district levels.

#### **3.12.1. Health Education/Promotion**

The Ministry of Health has paid special attention to health education as an effective method for changing unfavourable attitudes and behaviour that would negatively influence the health and well-being of individuals and the community at large. To meet this challenge, the Ministry established a Department of Health Education under the preventive health sector with representation in all medical districts. The departments' responsibility is to develop national plans to raise the awareness of the public on all matters pertaining to their health and well-being. The implementation of these plans in the form of programmes and specific activities is supervised by the department. The health education component of all prevention and control measures is multifaceted, Targeting different groups of the population including different methodologies (conferences, courses, lectures and workshops, national awareness weeks. Examples of

these include: Cancer National Awareness Week, outreach activities, sporting events, publications and media use). It is important to note that there is no reference centre for health education in neither the community nor a radio and television production unit which broadcasts awareness programmes via the various media channels. Because of the diversity of nationalities and languages, public communication is a challenge. Although health education has been recognised as an essential element to support health-care services, it still lacks proper definition of why, where, what, how and who. Although isolated and uncoordinated activities for utilisation of health education exist, there is no attempt at joining forces in a well studied programme. The information and telecommunication infrastructure in health-care institutions is weak.

### **3.13. Quality of Health-Care Services in Rural India: The User Perspective**

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 patient's viewpoint. However, researchers opine that real improvement in quality of care cannot occur if the user perception is not involved. Patients' perception is significant as it impacts their 'health-seeking behaviour' including utilisation of services, seeks involvement in issues directly related to them, enables the service provider to meet their expectations better, and provides relevant information to the policy makers to improve the quality. The Studies in developing nations in Asia, such as Sri Lanka (Akin & Hutchinson, 1999), Nepal (Lafond, 1995) and Bangladesh (Andaleeb, 2000), have confirmed the impact of perceived quality of health-care services on the utilization. Evidently, quality of health-care is important and demands continuous attention. Keeping this in mind, the current study aims to measure the perception of users availing rural health-care services in India with a view to provide valuable information to the policy makers about the areas that need attention for improvement in quality of health-care. Furthermore, it seeks to further develop an analytical framework for the measurement of perceived quality of health-care.

The findings illustrated some interesting differences in user perception regarding service Quality and how they varied between different health-care centers and according to the demographic status of patients. It was observed that:

1. 'Health-care delivery' and 'financial and physical access to care' significantly impacted the perception among men, while among women it was 'health-care delivery' and 'health personnel's conduct and drug availability'.
2. With improved income and education, the expectations of the respondents also increased. It was not merely the financial and physical access that was important but the manner of delivery, the availability of various facilities and the interpersonal and diagnostic aspect of care as well that mattered to the people with enhanced economic earnings.
3. What was most astonishing was the finding that the overall quality of health-care services is perceived to be higher in Primary Health-Care Centres than in Community Health-Care Centres (CHCs). Inadequate availability of doctors and medical equipments, poor clinical examination and poor quality of drugs were the important drawbacks reported at CHCs.

The current study demonstrates that the instrument employed was reliable and possessed the power to discern differences in the opinion of people on the basis of demographic factors and point out the quality differences in different health-care centres. It could be employed to evaluate health-care quality perception in other rural and urban regions of the country and to assess the perception of users towards private health-care centres. Further, research could be conducted on price-quality relationship. The government and policy makers are urged to consider the perceptions of patients as well in order to affect improvement in the quality of services and subsequently increase their utilization. The current study demonstrates that the instrument employed was reliable and possessed the power to discern differences in the opinion of people on the basis of demographic factors and point out the quality differences in different health-care centres. The selection of the respondents on the basis of convenience may have limited the precision of the study but the findings urge the government and policy makers to consider the perceptions of patients as well in order to affect improvement in the quality of services and subsequently increase their level of utilisation. Immediate steps need to be undertaken to ensure availability of doctors, medical equipments, and good quality of drugs. The study was, however, limited to certain areas of Andhra Pradesh. Therefore, it is suggested that similar studies be carried out in other rural and urban regions of the country and include

the private health-care service providers as well. Further, researches could be conducted on price-quality relationship.

### **3.13.1. Quality of Health-Care Services Delivery**

In fifteen years since the Alma Ata Declaration, in which the international community committed itself to providing primary health-care (PHC) for all, major efforts have been made in nearly all developing countries to expand PHC services. This has been achieved through increased resources allocated by both national and international sources, expanded health worker training, and major health system reorganisation. Dramatic increases in outreach and health coverage have been reported by most countries, many of which have posted modest declines in infant and child mortality and some reductions in selected morbidity. However, the reported improvements have not always been commensurate with the resources expended. Furthermore, not enough has been done to assess service quality or to ensure that resources are having an optimal impact. A better quality delivery system can help health programme managers to define clinical guidelines and standard operating procedures, to assess performance compared with selected performance standards, and to take tangible steps toward improving programme performance and effectiveness. Quality of care must be defined in the light of the provider's technical standards and patients' expectations. While no single definition of health service quality applies in all situations, the following definitions are helpful guides: The quality of technical care consists in the application of medical science and technology in a way that maximizes its benefits to health without correspondingly increasing its risks. The degree of quality is, therefore, the extent to which the care provided is expected to achieve the most favorable balance of risks and benefits.

### **3.13.2. Primary Health-Care in India: Quality**

The quality of health-care in India is an immensely neglected area of study, though recent efforts have begun to focus on it. Quality of health-care services is a complex variable, encompassing as it does tangibles such as availability of drugs and equipment and intangibles such as courtesy and respect shown by providers to the patients. In India, the quality of health-care services provided by the public health system is extremely low in almost all the criteria on which quality can be judged – infrastructure, availability of drugs and equipment, regular presence of qualified medical personnel and treatment of

patients. Instead of being supportive and palliative of people's health, it will not be remiss to say that the health system itself poses a hazard to its intended beneficiaries, especially the poor who are often as reluctant to use public health services as the rich. Quality of health-care services provided can be assessed along the following dimensions (which are by no means exhaustive): (i) an adequately equipped and easily accessible public health facility, (ii) appropriate and timely clinical care, and (iii) patient satisfaction with health-care received and the outcome of treatment. Ultimately, the real test of the quality of health-care services is how it affects health outcomes, especially of the poor. Let us now discuss some aspects of the quality of publicly provided primary health-care services in India.

The role of the government in ensuring that its country's health-care system provides optimal services for its population has been greatly emphasised upon (The World Health Report, 2000). Improvement in the quality of primary health-care services, apart from increasing accessibility and affordability, has become a matter of grave concern for the developing nations in the recent years. However, the meaning of quality in health-care system has been interpreted differently by different researchers. Ovretveit (1992) identified three "stakeholder" components of quality: client, professional, and managerial. From the client's viewpoint, it is the meeting of the patient's unique needs and wants (Atkins, Marshall and Javalgi, 1996) at the lowest cost (Ovretveit, 1992), provided with courtesy and on time (Brown, et al., 1998). While professional quality involves carrying out of techniques and procedures essential to meet the client's requirement, managerial quality entails optimum and efficient utilisation of resources to achieve the objectives defined by higher authorities. According to the Institute of Medicine (2001), quality in health-care is, "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." Meeting the objectives of both physicians and patients has been equated with the concept of quality in health-care by some researchers (Morgan & Murgatroyd, 1994), while others have focused on user perception, technical standards, and provision of care (Boller, et al., 2003; Hulton, Mathews and Stones, 2000). Quality of care comprises: structure, process, and health outcomes (Peabody, et al., 1999). There are eight dimensions of health-care service

delivery: effectiveness, efficiency, technical competence, interpersonal relations, access to service, safety, continuity, and physical aspects of health-care (Brown, et al, 1998). The concept of quality is multifaceted, connoting different meanings to different stakeholders such as government, service provider, hospital administration, and patients. It impacts their 'health-seeking behaviour' (National Commission on Macroeconomics and Health Report, 2005) including utilisation of services (Haddad & Fournier, 1995; Reerink & Sauerborn, 1996), seeks involvement in issues directly related to them (Calnan, 1988), enables the service provider to meet their expectations better (Calnan, 1998), and provides relevant information to the policy makers to improve the quality. Studies in developing nations in Asia, such as Sri Lanka (Akin & Hutchinson, 1999), Nepal (Lafond, 1995) and Bangladesh (Andaleeb, 2000), have confirmed the impact of perceived quality of health-care services on the utilization. Evidently, quality of health-care is important and demands continuous attention. Keeping this in mind, the current study aims to measure the perception of users availing rural health-care services in India, with a view to provide valuable information to the policy makers about the areas that need attention for improvement in quality of health-care. Furthermore, it seeks to further develop an analytical framework for the measurement of perceived quality of health-care.

#### **3.14. The Health Service Provider**

From the provider's perspective, quality care implies that he or she has the skills, resources, and conditions necessary to improve the health status of the patient and the community, according to current technical standards and available resources. The provider's commitment and motivation depend on the ability to carry out his or her duties in an ideal or optimal way. Providers tend to focus on technical competence, effectiveness, and safety. Key questions for providers may be: How many patients are providers expected to see per hour? What laboratory services are available to them, and how accurate, efficient, and reliable are they? What referral systems are in place when specialty services or higher technologies are needed? Are the physical working conditions adequate and sanitary, ensuring the privacy of patients and a professional environment? Does the pharmacy have a reliable supply of all the needed medicines? Are there opportunities for continuing medical education?

### **3.15. Services Delivery in Rural Health-Care Centres**

Minimum assured services cover all the essential elements of preventive, promotive, curative and rehabilitative primary health-care. All the following services have been classified as essential (Minimum Assured Services) or desirable (which all States/ UTs should aspire to achieve at this level of facility. Appropriate guidelines for each National Programme for management of routine and emergency cases are being provided to the PHC. All the support services to fulfill the objectives will be strengthened at the PHC level.

#### **3.15.1. Minimum Requirement for Delivery of Health-Care Services:**

The basic minimum requirements are being projected, based on the basis of 40 patients per doctor per day, the expected number of beneficiaries for maternal and child health-care and family planning and about 60% utilisation of the available indoor/observation beds (6 beds). It would be a dynamic process in the sense that if the utilisation goes up, the standards would be further upgraded. As regards, manpower, one more Medical Officer (may be from AYUSH or a lady doctor) and two more staff nurses are added to the existing staff strength of PHC to make it 24x7 services delivery centre.

#### **3.15.2. Facilities**

The document includes a suggested layout of PHC, indicating the space for the building and other infrastructure facilities. A list of manpower, equipment, furniture and drugs needed for providing the assured and desirable services at the PHC has been incorporated in the document. A Charter of Patients' Rights for appropriate information to the beneficiaries, grievance redressal and constitution of Rogi Kalyan Samiti/Primary Health Centre Management Committee for better management and improvement of PHC services with involvement of Panchayati Raj Institutions (PRI) has also been made as a part of the Indian Public Health Standards. The monitoring process and quality assurance mechanism is also included.

#### **3.15.3. Medical Care:**

1. OPD services: A total of 6 hours of OPD services, out of which 4 hours in the morning and 2 hours in the afternoon. Time schedule will vary from state to state. Minimum OPD attendance should be 40 patients per doctor per day.

2. 24 hours emergency services: appropriate management of injuries and accidents, First Aid, Stabilisation of the condition of the patient before referral, Dog bite/snake bite/scorpion bite cases, and other emergency conditions.
3. Referral services
4. In-patient services (6 beds)

**3.15.4. Intra-natal Care: (24-hour delivery services both normal and assisted)**

- i) Promotion of institutional deliveries
- ii) Conducting of normal deliveries
- iii) Assisted vaginal deliveries including forceps / vacuum delivery, whenever required
- iv) Manual removal of placenta
- iv) Appropriate and prompt referral for cases needing specialist care.
- v) Management of Pregnancy Induced hypertension including referral
- vi) Pre-referral management (Obstetric first-aid) in Obstetric emergencies that need expert assistance (Training of staff for emergency management to be ensured).
- vii) Minimum 48 hours of stay after delivery.
- viii) Managing labour using Partograph.

**3.15.5. Nutrition Services (coordinated with ICDS)**

- a) Diagnosis of and nutrition advice to malnourished children, pregnant women and others.
- b) Diagnosis and management of anaemia, and vitamin A deficiency.
- c) Coordination with ICDS.

**3.15.6. Promotion of Safe Drinking Water and Basic Sanitation**

- i. Disinfection of water sources and coordination with Public Health Engineering department for safe water supply.
- ii. Promotion of sanitation including use of toilets and appropriate garbage disposal.
- iii. Testing of water quality using H<sub>2</sub>S- Strip Test (Bacteriological)

**3.15.7. Basic Laboratory Services:**

Essential Laboratory services including:

- i. Routine urine, stool and blood tests (Hb%, platelets count, total RBC, WBC,)

- ii. Diagnosis of RTI/ STDs with wet mounting, Grams stain, etc.
- iii. Sputum testing for mycobacterium (as per guidelines of RNTCP)
- iv. Blood smear examination malarial.
- v. Rapid diagnostic tests (pregnancy) and RDK for Pf malaria in endemic districts
- vi. Rapid tests for pregnancy.
- vii. RPR test for Syphilis/YAWS surveillance (endemic districts).
- viii. Rapid test kit for fecal contamination of water
- ix. Estimation of chlorine level of water using ortho-toludine reagent
- x. Blood Sugar
- xi. Desirable:
- xii. Blood Cholesterol
- xiii. ECG.

#### **3.15.8. Monitoring and Supervision:**

- (i) Monitoring and supervision of activities of sub-centre through regular meetings / periodic visits, etc.
- (ii) Monitoring of all National Health Programmes
- (iii) Monitoring the activities of ASHAs
- (iv) MO should visit all Sub-centres at least once in a month
- (v) Health Assistants Male and LHV should visit Sub-centres once a week.
- (vi) Checking for tracking of missed out and left out ANC/PNC, etc., during monitoring visits and quality parameters (including using Partograph, AMTSL, ENBC, etc) during delivery and post delivery stages.

#### **3.15.9. Functional Linkages with Sub-Centres**

- (i) There shall be a monthly review meeting at PHC chaired by MO (or in-charge), and attended by all the Multipurpose Health Workers (Male and Female) and Health Assistants (Male and female).
- (ii) On the spot Supervisory visits to Sub-centres.
- (iii) ASHAS and Anganwadi Workers may be appreciated if they attend the meeting
- (iv) Medical officer should orient ASHAs on selected areas of health-care.

### **3.16. Essential Infrastructure**

The PHC should have a building of its own. The surroundings should be clean.

The details are as follows:

#### **3.16.1. PHCs Building**

**Location:** It should be centrally located in an easily accessible area. Hence, all new PHC Buildings should be located accordingly. The area chosen should have the facility for electricity, all weather road communication, adequate water supply and telephone. If PHC is already located, another health centre/SC should not be established to avoid the wastage of human resources. PHC should be away from garbage collection, cattle shed, water logging area, etc. It should be well planned with the entire necessary infrastructure. It should be well lit and ventilated with as much use of natural light and ventilation as possible. The plinth area would vary from 375 to 450 sq. metres, depending on whether an OT facility is opted for.

#### **3.16.2. Waiting Area**

1. This should have adequate space and seating arrangements for waiting clients / patients
2. The walls should carry posters imparting health education.
3. Booklets / leaflets in local language may be provided in the waiting area for the same purpose.
4. Toilets with adequate water supply separate for males and females should be Available.

Safe drinking water should be available in the patients' waiting area. There should be proper notice displaying wings of the centre, available services, and names of the doctors, users' fee details and list of members of the Rogi Kalyan Samiti / Hospital Management Committee. A locked complaint / suggestion box should be provided and it should be ensured that the complaints/suggestions are looked into at regular intervals and the complaints are addressed. The surroundings should be kept clean with no water-logging in and around the centre and vector breeding places.

#### **3.16.3. Outpatient Department:**

1. The outpatient room should have separate areas for consultation and examination.
2. The area for examination should have sufficient privacy.

3. In PHCs with AYUSH doctors, necessary infrastructure, such as consultation room for AYUSH Doctor and AYUSH Drug dispensing, should be made available.
4. One room for Counseling of Family Planning clients.

### **3.17. Role of Anganwadi as a Facilitator of ASHA:**

Anganwadi Worker (AWW) will guide ASHA in performing the following activities:

Organizing health day once/twice a week. On health day, the women, adolescent girls and children from the village will be invited for orientation on health related issues such as importance of nutritious food, personal hygiene, and care during pregnancy, importance of antenatal check up and institutional delivery, home remedies for minor ailment and importance of immunisation etc. IEC activity through display of posters, folk dances, etc, on these days can be undertaken to sensitise the beneficiaries on health related issues, including HIV/AIDS. Anganwadi worker will be depot holder for drug kits and will be issuing it to ASHA. The replacement of the consumed drugs can also be done through AWW.

### **3.18. Universal Immunisation Programme:**

The duties of personnel drafted for such programmes include the following: (i) Administer DPT vaccines, oral Poliomyelitis vaccine measles vaccine and BCG vaccine to all infants and children in his area in collaboration with health worker female, (ii) Assist the health worker female in administration of tetanus toxoid to all pregnant women, (iii) Assist the health supervisor male/health supervisor female in the school health programme and educate the people in the community about the importance of immunization against the various communicable diseases.

#### **3.18.1. Primary Medical Care**

The basic task of those engaged in primary Medical care is to provide treatment for minor ailments, provide first aid for accidents and emergencies and refer cases beyond his competence to the Primary health centre or the nearest hospital

#### **3.18.2. Health Education**

Educate the community about the availability of maternal and child health services and encourages them to utilise the facilities.

1. Carry out educational activities for MCH, Family Planning, Nutrition and Immunisation, control of blindness, dental care and other national health programmes like leprosy, Tuberculosis and NCD programmes, with the assistance of the Female Health Worker.
2. Arrange group meetings with the leaders and involve them in spreading the message for various health programmes.
3. Organise and conduct training of women leaders with the assistance of the Female Health Worker.
4. Organize and utilise Mahila Mandal, Teachers and other women in the Community in the family welfare programmes.

### **3.18.3. Promoting Food Supply and Proper Nutrition**

The duties of one engaged in the area of nutrition include: (i) identify cases of malnutrition among infants and young children (0-5 years) in one's area, (ii) give the necessary treatment and advice or refer them to the anganwadi for supplementary feeding, (iii) refer serious cases to the PHC, and (iv) educate the community about the nutritious diet for mothers and children from locally available food. The poor nutritional status of the people particularly of the pregnant and nursing mothers, and the infants and children can be substantially improved by organizing and conducting nutrition education programmes in the community and in the schools; by encouraging people to make kitchen gardens and community gardens, and by educating the people on food hygiene. Steps also need to be taken to encourage growing locally more foods such as cereals, pulses, vegetables, fruits, milk, fish and poultry products through cooperative and other efforts so as to make these easily accessible and affordable to the people. Simultaneously, the purchasing capacity of the families might be improved through a variety of income generating schemes. In addition, for the moderately and severely malnourished groups, special nutrition programmes are to be organized. In these endeavors, functionaries from other sectors such as agriculture, animal husbandry, irrigation, banks and cooperatives, social and women's welfare, panchayat, voluntary organizations and other community groups can play a very significant role.

#### **3.18.4. Supply of Safe Water and Basic Sanitation Measures**

Safe water and to carry out analysis of water. Arrangements should be made for regular purification of water through chlorination etc., before using for drinking and other household purposes. People at all levels, including village leaders, women and school children should be educated on continuous basis about the importance of proper maintenance of water and the use of safe water. Observation of personal hygienic practices should be emphasised. It would be important to organise the people and resources for constructing household and community latrines, and making arrangements for collection and disposal of human and animal wastes. Proper and imaginative disposal of waste water is also very important. Construction of composting facilities, soakage pits and the use some of the waste resources in kitchen gardens would be helpful. Proper educational programmes on all these aspects for the children, youths and adults and the mothers should be organised in a systematic manner. In these programmes cooperation of the workers of other sectors such as Irrigation, Engineering Department, Village Industries, Agriculture, Education, Social and Women's Welfare, Panchayats and Cooperatives would be most vital. Active community participation in organising all the above activities and programmes would be the key to success.

#### **3.19. Availability of Manpower in Rural Health-Care Centre**

To ensure round the clock access to public health facilities, Primary Health Centres are expected to provide 24-hour service with basic Obstetric and Nursing facilities. Under NRHM, PHCs are being operationalised for providing 24 x 7 services in various phases, by placing at least 3 Staff Nurses in these facilities. If the case load is there, operationalisation of 24 x 7 PHCs may be done in a phased manner, according to availability of manpower. This is expected to increase the institutional deliveries which would help in reducing maternal mortality. 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 IPHS norms as for a CHC. All 24 x 7 PHCs providing delivery services would also have newborn care corners and provide basic new born care services including resuscitation, prevention of infections, provision of warmth and early and exclusive breast feeding.

### **3.20. Quality Assurance in Rural Health-Care Centre**

Periodic skill development training of the staff of the PHC in the various jobs/responsibilities assigned to them can ensure quality. Standard Treatment Protocol for all national programmes and locally common diseases should be made available at all PHCs. regular monitoring is another important means. A few aspects that need definite attention are:

D) Interaction and information exchange with the clients/ patients:

1. Courtesy should be extended to patients/clients by all the health providers, including the support staff
2. All relevant information should be provided as regards the condition / illness of the client/ patient.

ii) Attitude of the health-care providers needs to undergo a radical change so as incorporate the feeling that the client is important and needs to be treated with respect.

iii) Cleanliness should be maintained at all points.

#### **3.20.1. Accountability in Health-Care Centre**

To ensure accountability, the Charter of Patients' Rights should be made available in each PHC. Every PHC should have a Rogi Kalyan Samiti / Primary Health Centre's Management Committee for improvement of the management and service provision of the PHC (as per the Guidelines of Government of India). This committee will have the authority to generate its own funds (through users' charges, donations, etc.) and utilise the same for service improvement of the PHC. The PRI/Village Health Committee / Rogi Kalyan Samiti will also monitor the functioning of the PHCs.

#### **3.20.2. Preventive and Promotive Work**

The Medical Officer will ensure that all the members of his/her health team are fully conversant with the various National Health & Family Welfare Programmes including NRHM to be implemented in the area allotted to each Health functionary. He/she will further supervise their work periodically both in the clinics and in the community setting to give them the necessary guidance and direction. He/she will prepare operational plans and ensure effective implementation of the same to achieve the laid down targets under different National Health and Family Welfare Programmes. The MO will provide assistance in the formulation of village health and sanitation plan

through the ANMs and coordinate with the PRIs in his/her PHC area. He/she will maintain close liaison with Block Development Officer and his/her staff, community leaders and various social welfare agencies in his/her area and involve them to the best advantage in the promotion of health programmes in the area. Wherever possible, the MO will conduct field investigations to delineate local health problems for planning changes in the strategy of the effective delivery of Health and Family welfare services. He/she will coordinate and facilitate the functioning of AYUSH doctor in the PHC.

## **HEALTHCARE MANAGEMENT DEVELOPMENT AND FUNCTION**

### **4.1. Understanding Healthcare Management**

Healthcare management is the profession that provides leadership and direction to organizations that deliver personal health services, and to divisions, departments, units, or services within those organizations. This chapter gives a comprehensive overview of healthcare management as a profession. Understanding the roles, responsibilities, and functions carried out by healthcare managers (provider) is important for those individuals considering the field to make informed decisions about the “fit.” This chapter provides a discussion of key management roles, responsibilities, Rural Health Infrastructure and Manpower - A Statistical Overview, healthcare finance in India priorities, issues and challenges, and healthcare management functions, as well as management positions at different levels within healthcare organizations. In addition, descriptions of supervisory level, mid-level and senior management positions within different organizations are provided.

### **4.2 What is Health Services Management**

Health services management research is a relatively new area of research. The importance of human resources management (HRM) to the success or failure of health system performance has, until recently, been generally overlooked. To put simply, HRM is a planned approach to manage people effectively for performance by providing a more open, flexible, and caring management style so that the staff will be motivated, developed, and managed in a way that they can give their best to support departments. HRM in healthcare sector has to function in a sector with some unique characteristics. The workforce is relatively large, diverse, and includes separate occupations.

In an organisational context, human resources development in healthcare may be defined as the process in which the employees of an organisation are helped and supported in a continuous and planned manner to acquire and sharpen capabilities and skills required for performing various functions associated with their present and

expected future roles. They are further helped to develop and enhance their undeveloped potential for their own and organisational developmental process. Developing an organisational climate contributes to professional well-being, motivation, and pride of the employees which is considered as the third dimension of the process. The organisational goal of human resources development normally is to have competent, motivated, dedicated, and disciplined employees to ensure higher levels of productivity, profitability and growth of the organisation.

The human resource development is the process of helping people acquire competencies and capabilities for their present and expected future roles. It not only develops their individual capabilities but also unveils and taps their hidden potential, further developing them as well as their organisations. As a continuum, it provides an organisation culture of trust; cooperation and healthy supervisor-subordinate relationships among subunits, resulting in professional well being and motivation of the employees. The competencies people needed include knowledge, attitude, skill, and values. Organisations need to build on the existing competencies of the employees so that they continue to provide high quality services in the face of ever-changing needs and newer challenges, be it in the private or public sector. The ultimate role of human resource development in any country is to improve the quality of life of its people.

Good human resources management practices are instrumental in helping achieve departmental objectives and enhance productivity. Medical and health services managers – also referred to as healthcare executives or healthcare administrators – plan, direct, coordinate, and supervise the delivery of healthcare. These workers are either specialists in charge of a specific clinical department, or generalists who manage an entire facility or system.

#### **4.3. The Need for Healthcare Management and Their Perspective**

Healthcare organizations are complex and dynamic. The nature of organizations requires that managers provide leadership, as well as the supervision and coordination of employees. Organizations were created to achieve goals that were beyond the capacity of any single individual. In healthcare organizations, the scope and complexity of tasks carried out in provision of services are so great that individual staff operating on their own couldn't get the job done. Moreover, the necessary tasks in producing services in

healthcare organizations require the coordination of many highly specialized disciplines that must work together seamlessly. Managers are needed to make certain that organizational tasks are carried out in the best way possible to achieve organizational goals and that appropriate resources, including financial and human resources, are adequate to support the organization. Healthcare managers are appointed to positions of authority where they shape the organization by making important decisions. Such decisions, for example, relate to recruitment and development of staff, acquisition of technology, service additions and reductions, and allocation and spending of financial resources. Decisions made by healthcare managers not only focus on ensuring that the patient receives the most appropriate, timely, and effective services possible, but also address achievement of performance targets that are desired by the manager. Ultimately, decisions made by an individual manager affect the organization's overall performance.

Healthcare management (Managers) must consider two domains as they carry out various tasks and make decisions (Thompson, 2007a). These domains are termed external and internal domains (Table 4.1). The external domain refers to the influences, resources, and activities that exist outside the boundary of the organization but which significantly affect the organization. These factors include community needs, population characteristics, and reimbursement from commercial insurers and Medicare and Medicaid. The internal domain refers to those areas of focus that managers need to address on a daily basis, such as ensuring the appropriate number and types of staff, financial performance, and quality of care. These internal areas reflect the operation of the organization where the manager has the most control. Keeping the dual perspective requires significant balance on the part of management and significant effort in order to make good decisions.

**Table - 4.1: Domains of Health Services Administration**

<b>External</b>	<b>Internal</b>
Community Demographics/Need	Staffing
Licensure	Budgeting
Accreditation	Quality services
Regulations	Patient satisfaction
Stakeholder Demands	Physician relations
Competitors	Financial performance

Medicare and Medicaid	Technology acquisition
Managed care organizations/Insurers	New service development

Source: J.M. Thompson, “Health Services Administration” in S. Chisolm (Ed.), *The Health Professions: Trends and Opportunities in U.S. Health Care*, 2007.

#### 4.4. Healthcare Management Definition, Function and Competencies

As discussed earlier, management is needed to support and coordinate the services that are provided within healthcare organizations. Management has been defined as the process, comprised of social and technical functions and activities, occurring within organizations for the purpose of accomplishing predetermined objectives through humans and other resources (Longest, Rakich, & Darr, 2000). Implicit in the definition is that manager’s work through and with other people, carrying out technical and interpersonal activities, in order to achieve desired objectives of the organization. Others have stated that a manager is anyone in the organization who supports and is responsible for the work performance of one or more other persons (Lombardi & Schermerhorn, 2007). While most beginning students of healthcare management tend to focus on the role of the senior manager or lead administrator of an organization, it should be realized that management occurs through many others who may not have “manager” in their position title. Examples of some of these managerial positions in healthcare organizations include supervisor, coordinator, and director; among others (Table 4.2). These levels of managerial control are discussed in more detail in the next section.

**Table – 4.2: Managerial Positions, By Organizational Setting**

<b>Organizational Setting</b>	<b>Examples of Managerial Positions</b>
Physician Practice	Practice Manager Director of Medical Records Supervisor, Billing Office
Nursing Home	Administrator Manager, Business Office Director, Food Services Admissions Coordinator Supervisor, Environmental Services
Hospital	Chief Executive Officer Vice President, Marketing Clinical Nurse Manager Director, Revenue Management Supervisor, Maintenance

Sources: Managers implement six management functions as they carry out the process of management (Longest, Rakich, & Darr, 2000):

**Planning:** This function requires the manager to set a direction and determine what needs to be accomplished. It means setting priorities and determining performance targets.

**Organizing:** This management function refers to the overall design of the organization or the specific division, unit, or service for which the manager is responsible. Further, it means designating reporting relationships and intentional patterns of interaction. Determining positions, teamwork assignments, and distribution of authority and Responsibilities are critical components of this function.

**Staffing:** This function refers to acquiring and retaining human resources. It also refers to developing and maintaining the workforce through various strategies and tactics.

**Controlling:** This function refers to monitoring staff activities and performance, and taking the appropriate actions for corrective action to increase performance.

**Directing:** The focus in this function is on initiating action in the organization through effective leadership and motivation of, and communication with, subordinates.

**Decision Making:** This function is critical to all of the aforementioned management functions and means making effective decisions based on consideration of benefits and the drawbacks of alternatives.

In order to effectively carry out these functions, the manager needs to possess several key competencies. Katz (1974) identified several key competencies of the effective manager, including conceptual, technical, and interpersonal skills. The term competency refers to a state in which an individual has the requisite or adequate ability or qualities to perform certain functions (Ross, Wenzel, & Mitlyng, 2002). These are defined as follows:

**Conceptual Skills** are those skills that involve the ability to critically analyze and solve complex problems. Examples: a manager conducts an analysis of the best way to provide a service, or determines a strategy to reduce patient complaints regarding food service.

**Technical Skills** are those skills that reflect expertise or ability to perform a specific work task. Examples: a manager develops and implements a new incentive compensation

program for staff or designs and implements modifications to a computer-based staffing model.

**Interpersonal Skills** are those skills that enable a manager to communicate with and work well with other individuals, regardless of whether they are peers, supervisors, or subordinates. Examples: a manager counsels an employee whose performance is below expectation, or communicates to subordinates the desired performance level for a service for the next fiscal year.

#### **4.5. Healthcare Management Positions: The Control in the Organizational Hierarchy**

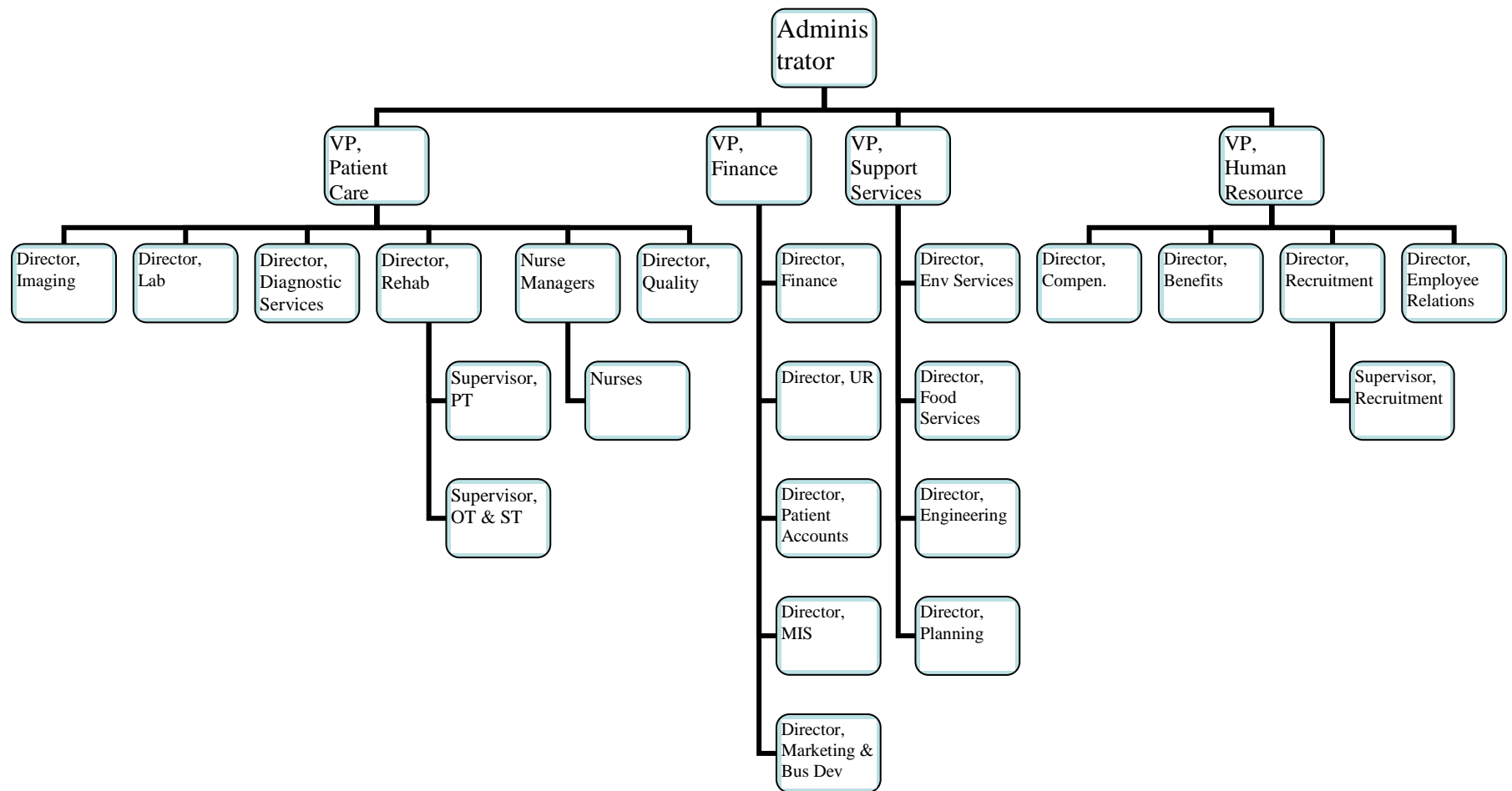
Healthcare Management positions within healthcare organizations are not confined to the top level; because of the size and complexity of many healthcare organizations, management positions are found throughout the organization. Management positions exist at lower levels, middle-management levels, and at upper levels, which is referred to as senior management level. The hierarchy of management means that authority, or power, is delegated downward in the organization, and that lower-level managers have less authority than higher-level managers whose scope of responsibility is much greater. For example, a vice president of Patient Care Services in a hospital may be in charge of several different functional areas, such as nursing, diagnostic imaging services, and laboratory services; in contrast, a director of Medical Records a lower-level position has responsibility only for the function of patient medical records. Furthermore, a supervisor within the Environmental Services department may have responsibility for only a small housekeeping staff, whose work is critical, but confined to a defined area of the organization. Some managerial positions, such as those discussed above, are line managerial positions because the manager supervises other employees; other managerial positions are staff managerial positions because they carry out work and advise their boss, but they do not routinely supervise others. Managerial positions also vary in terms of required expertise and or experience; some positions require extensive knowledge of many substantive areas and significant working experience, and other positions are more appropriate for entry level managers who have limited or no experience.

The most common organizational structure for healthcare organizations is a functional organizational structure whose key characteristic is a pyramid-shaped

hierarchy, which defines the functions carried out and the key management positions assigned to those functions. The size and complexity of the specific health services organization will dictate the particular structure. For example, larger organizations such as large community hospitals, hospital systems, and academic medical centers will likely have deep vertical structures reflecting varying levels of administrative control for the organization. This structure is necessary due to the large scope of services provided and the corresponding vast array of administrative and support services that are needed to enable the delivery of clinical services. Other characteristics associated with this functional structure include a strict chain of command and line of reporting, which ensures that communication and assignment and evaluation of tasks are carried out in a linear command and control environment. This structure offers key advantages, such as specific divisions of labor and clear lines of reporting and accountability.

Other administrative structures have been adopted by healthcare organizations, usually in combination with a functional structure. These include matrix or team-based models and service line management models. The matrix model recognizes that a strict functional structure may limit the

## Healthcare Function Organizational Structure



Source: J.M. Thompson, "Health Services Administration" in S. Chisolm (Ed.), the Health Professions: Trends and Opportunities in U.S. Health Care, 2007.

Organization's flexibility to carry out the work, and that the expertise of other disciplines is needed on a continuous basis. An example of the matrix method is when functional staff, such as nursing and rehabilitation personnel, are assigned to a specific program such as geriatrics and they report for programmatic purposes to the program director of the Geriatrics(The branch of medicine or social science dealing with the health and care of old people) department. Another example is when clinical staff and administrative staff are assigned to a team investigating new services that is headed by a marketing or business development manager. In both of these examples, management would lead staff who traditionally are not under their direct administrative control. Advantages of this structure include improved lateral communication and coordination of services, as well as pooled knowledge.

In healthcare service line management, a manager is appointed to head a specific clinical service line and has responsibility and accountability for staffing, resource acquisition, budget, and financial control associated with the array of services provided under that service line. Typical examples of service lines include cardiology, oncology, women's services, physical rehabilitation, and behavioral health (mental health). Service lines can be established within a single organization, or may cut across affiliated organizations such as within a hospital system where services are provided at several different affiliated facilities (Boblitz & Thompson, 2005). Some facilities have found that the service line management model for selected clinical services has resulted in many benefits, such as lower costs, higher quality of care, and greater patient satisfaction compared to other management models (Duffy & Lemieux, 1995). The service line management model is usually implemented within an organization in conjunction with a functional structure, as the organization may choose to give special Emphasis and additional resources to one or a few services lines.

#### **4.2.0. Rural Health Infrastructure and Manpower - A Statistical Overview**

##### **4.2.1. The Centres Functioning**

The Primary Health Care Infrastructure has been developed as a three tier system with Sub Centre, Primary Health Centre (PHC) and Community Health Centre (CHC) being the three pillars of Primary Health Care System. Progress of Sub Centres, which is

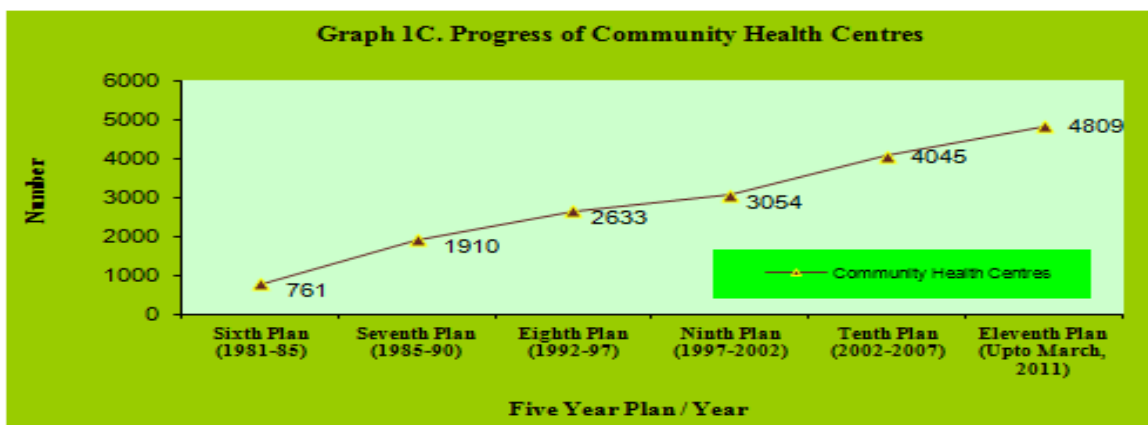
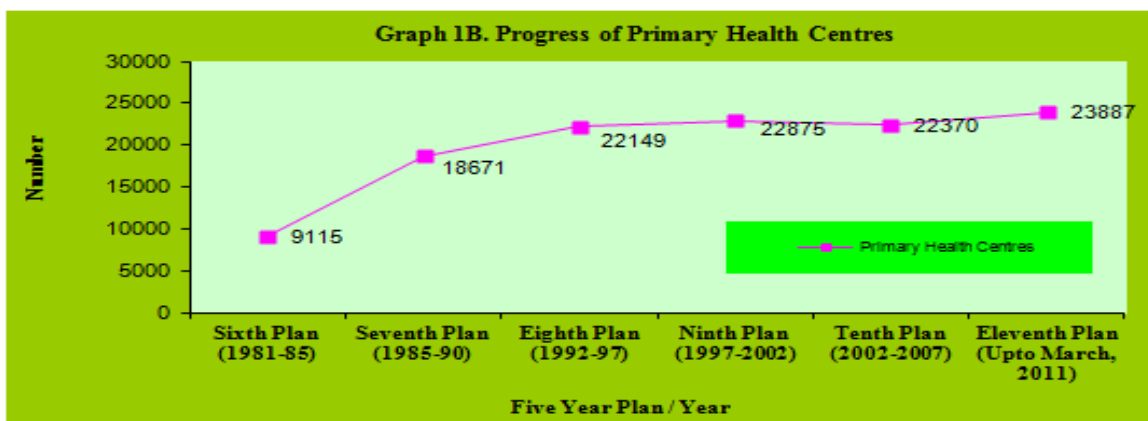
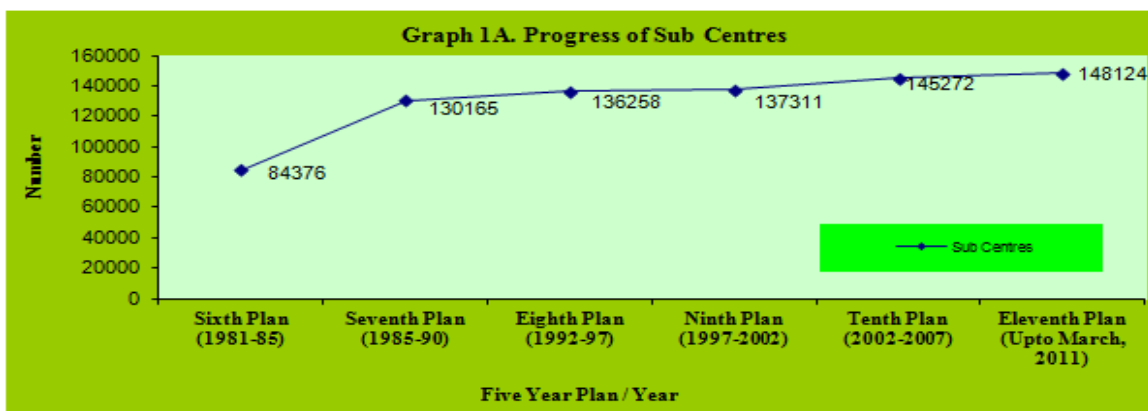
the most peripheral contact point between the Primary Health Care System and the community, is a prerequisite for the overall progress of the entire system. A look at the number of Sub Centres functioning over the years revealed that at the end of the Sixth Plan (1981-85) there were 84,376 Sub Centres, which increased to 1,30,165 at the end of Seventh Plan (1985-90) and to 1,45,272 at the end of Tenth Plan (2002-2007). As on March, 2011, 1,48, 124 Sub Centres are functioning in the country.

**Table 4.3 - Public health infrastructure: healthcare centres**

Plan Number	Plan Period	Community	Primary	Sub Centre
1	1951-56	-	725	-
2	1956-61	-	2565	-
3	1956-61	-	4631	-
4	1969-74	-	5283	33,509
5	1974-79	214	5484	47,112
6	1980-85	761	9115	84,376
7	1985-90	1910	18671	130,165
8	1992-97	2633	22149	136,258
9	1997-2002	3043	22842	137,311
10	2002-2007	4045	22669	145272
11	2007-2011	4535	23673	147036

Sources: planning commission reports (2011)

Similar progress can be seen in the number of PHCs which was 9115 at the end of sixth plan (1981-85) and the figure almost doubled to 18671 at the end of Seventh Plan (1985-90) and rose to 22669 at the end of Tenth Plan (2002-2007). As on March, 2008, there were 23458 PHCs functioning in the country. In accordance with the progress in the number of SCs and PHCs, the number of CHCs has also increased from 761 at the end of Sixth Plan (1981-85) to 1910 at the end of Seventh Plan (1985-90) and 4045 at the end of Tenth Plan (2002-2007). As on March, 2008, 4510 CHCs were functioning. According to the figures of population based on 2001 Population Census, the shortfall in the rural health infrastructure is to the tune of 20486 Sub Centres, 4477 PHCs and 2337 CHCs, ignoring surplus in some States / UTs.



Similar progress can be seen in the number of PHCs which was 9115 at the end of Sixth Plan (1981-85) and almost doubled to 18671 at the end of Seventh Plan (1985-90). Number of PHCs rose to 22370 at the end of Tenth Plan (2002-2007). As on March, 2011, there are 23887 PHCs functioning in the country. A number of PHCs have been upgraded to the level of CHCs in many States. In accordance with the progress in the number of Sub Centres and PHCs, the number of CHCs has also increased from 761 at the end of Sixth Plan (1981-85) to 1910 at the end of Seventh Plan (1985-90) and 4045 at

the end of Tenth Plan (2002-2007). As on March, 2011, 4809 CHCs are functioning in the country.

Presents the number of Sub Centres, PHCs and CHCs existing in 2011 as compared to those reported existing in 2005. As may be seen from the above diagram , at the national level there is an increase of 2098 Sub Centres, 651 PHCs and 1463 CHCs in 2011 as compared to those existing in 2005. This implies an increase of about 43% in number of CHCs, about 2.8% in number of PHCs and about 1.4% in number of Sub Centres in 2011 as compared to 2005. There is significant increase in the number of Sub Centres in the States of Chhattisgarh, Haryana, Jammu & Kashmir, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura and Uttarakhand. Significant increase is also observed in the number of PHCs in the States of Andhra Pradesh, Assam, Bihar, Chhattisgarh, Haryana, Jammu & Kashmir, Karnataka, Maharashtra, Nagaland, Uttarakhand, and Uttar Pradesh. In case of CHCs, significant increase is observed in the States of Arunachal Pradesh, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Madhya Pradesh, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal. The average population covered by a Sub Centre, PHC and CHC was 5624, 34876 and 173235, respectively.

#### 4.2.2. Building Status

As on March, 2011, 62.7% of Sub Centres, 86.7% of PHCs and 95.3% of CHCs are located in the Government buildings. The rest are located either in rented building or rent free Panchayat/ Voluntary Society buildings

**Table -4.4. Building Position of Sub Centres, PHCs and CHCs**

Buildings	Sub Centres		PHCs		CHCs	
	2010	2011	2010	2011	2010	2011
Government	57.8	62.7	88.6	86.7	93.4	95.3
Rented	32	27	6.6	8.7	6.6	4.7
Rent free	10.3	10.3	4.8	4.6		

Sources: NRHM Report-2011

1. Give the comparative picture of the status of buildings for Sub Centres, PHCs and CHCs, respectively, in 2011 as compared to that in 2005. As may be seen, percentage of Sub Centres functioning in the Government buildings has increased

- from 50% in 2005 to 62.7% in 2011 mainly due to substantial increase in the government buildings in the States.
2. Similarly, percentage of PHCs functioning in Government buildings has also increased significantly from 78% in 2005 to 86.7% in 2011. This is mainly due to increase in the Government buildings in the States
  3. Number of CHCs functioning in Government buildings have increased appreciably in 2011 as compared to 2005. The percentage of CHCs in Govt. buildings has increased from 90% in 2005 to 95.3% in 2011.

#### 4.2.3. Manpower

The availability of manpower is one of the important prerequisite for the efficient functioning of the Rural Health services. As on March, 2011 the overall shortfall (which excludes the existing surplus in some of the states) in the posts of HW(F) / ANM was 3.8% of the total requirement as per the norm of one HW(F) / ANM per Sub Centre and PHC. The overall shortfall is mainly due to shortfall in States namely, Chhattisgarh, Gujarat, Himachal Pradesh, Kerala, Tamil Nadu, Tripura and Uttar Pradesh. The State-wise variation in shortfall of ANMs

Similarly, in case of HW (M), there was a shortfall of 64.7% of the requirement. In case of Health Assistant (Female)/LHV, the shortfall was 38% and that of Health Assistant (Male) was 43.3%. For allopathic Doctors at PHC, there was a shortfall of 12.0% of the total requirement. This is again mainly due to significant shortfall in Doctors at PHCs in the States of Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Nagaland, Orissa, Rajasthan and Uttar Pradesh. Even out of the sanctioned posts, a significant percentage of posts are vacant at all the levels. For instance, 5% of the sanctioned posts of HW (Female)/ ANM were vacant as compared to 42.2% of the sanctioned posts of Male Health Worker.

**Table - 4.5. Shortfall- Percentage of shortfall as compared to requirement based on existing infrastructure**

Short Fall	2010	2011
HW(F)ANM	8.8	3.8
HM(M)	64.1	64.7
LHV(Health Assistant-F)	31.9	38
Health Assistant-M	44.0	43.3
Doctor At PHCs	10.3	12.0

Sources: NRHM Report-2011

**Table – 4.6. Vacancy Position - Percentage of Sanctioned Post Vacant**

Short Fall	2010	2011
HW(F)ANM	6.3	5.0
HM(M)	34.0	42.2
LHV(Health Assistant-F)	24.3	33.9
Health Assistant-M	30.4	35.4
Doctor At PHCs	20.7	24.1

Sources: NRHM Report-2011

1. At PHCs, 33.9% of the sanctioned posts of Female Health Assistant/ LHV, 35.3% of Male Health Assistant and 24.1% of the sanctioned posts of doctors were vacant. The State-wise variation in the shortfall of Doctors at PHCs
2. At the Sub Centre level the extent of existing manpower can be assessed from the fact that 3.2% of the Sub Centres were without a Female Health Worker / ANM, 49.1% Sub Centres were without a Male Health Worker and 2% Sub Centres were without Female Health Worker / ANM as well as Male Health Worker. Centres were without a Male Health Worker and 2% Sub Centres were without Female Health Worker / ANM as well as Male Health Worker.

**Table – 4.7. Percentage of Sub Centres functioning without ANMs or/and HW (M)**

	2010	2011
Without HW (F)/ ANM	4.2	3.2
Without HW(M)	51.8	49.1
Without Both	2.0	2.0

Sources: NRHM Report-2011

PHC is the first contact point between village community and the Medical Officer.

Manpower in PHC includes a Medical Officer supported by paramedical and other staff.

**Table - 4.8. Percentage of PHCs without Doctor, Lab Tech., Pharmacist**

	2010	2011
Without doctor	3.3	4.6
Without Lab Tech	36.3	36.9
Without Pharmacist	17.5	24.6

Sources: NRHM Report-2011

As on March, 2011, 4.6% of the PHCs were without a doctor, 36.9% were without a Lab technician and 24.6% were without a Pharmacist.

The Community Health Centres provide specialized medical care in the form of facilities of Surgeons, Obstetricians & Gynaecologists, Physicians and Paediatricians.

The current position of specialists manpower at CHCs reveal that as on March, 2011, out

of the sanctioned posts, 55.9% of Surgeons, 46.7% of Obstetricians & Gynaecologists, 58.9% of Physicians and 40% of Paediatricians were vacant. Overall 39.5% of the sanctioned posts of specialists at CHCs were vacant. Moreover, as compared to requirement for existing infrastructure, there was a shortfall of 75% of Surgeons, 65.9% of Obstetricians & Gynaecologists, 80.1% of Physicians and 74.4% of Paediatricians. Overall, there was a shortfall of 63.9% specialists at the CHCs as compared to the requirement for existing CHCs. The shortfall in Specialists is significantly high in most of the States.

*The Specialist doctors at CHCs have increased from 3550 in 2005 to 6935 in 2011. However, as compared to requirement for existing infrastructure, there was a shortfall of 75% of Surgeons, 65.9% of Obstetricians & Gynaecologists, 80.1% of Physicians and 74.4% of Paediatricians. Overall, there was a shortfall of 63.9% specialists at the CHCs as compared to the requirement for existing CHCs.*

**Table -4.9. Percentage shortfall of specialists as compared to requirement based on existing infrastructure**

Short fall	2010	2011
Surgeons	62.8	75.0
O & G(Obstetricians & Gynaecologists)	55.2	65.9
Physicians	71.7	80.1
Pediatricians	69.5	74.4
Total	62.6	63.9

Sources: NRHM Report-2011

**Table - 4.10. Percentage of sanctioned post of specialists vacant**

Sanctioned	2010	2011
Surgeons	49.7	55.9
O & G (Obstetricians & Gynaecologists)	36.6	46.7
Physicians	49.6	58.9
Pediatricians	51.9	40.0
Total	42.3	39.5

Sources: NRHM Report-2011

When we compare the manpower position of major categories in 2011 with that in 2005, as presented, it is observed that there are significant improvements in terms of the numbers in all the categories. For instance, the number of ANMs at Sub Centres and PHCs have increased from 133194 in 2005 to 207868 in 2011 which amounts to an increase of about 56%. Similarly, the allopathic Doctors at PHCs have increased from 20308 in 2005 to 26329 in 2011, which is about 29% increase. Moreover, the Specialist

doctors at CHCs have increased from 3550 in 2005 to 6935 in 2011, which implies an appreciable 95% increase.

Looking at the State-wise picture, it may be observed that the increase in ANMs is attributed mainly to significant increase in the States of Andhra Pradesh, Assam, Bihar Chhattisgarh, Goa, Haryana, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Uttarakhand, Uttar Pradesh and West Bengal. Similarly, there is significant increase in the number of Doctors at PHCs in the States namely Andhra Pradesh, Jammu & Kashmir, Karnataka, Kerala, Manipur, Mizoram, Nagaland, Punjab and Uttarakhand. In case of specialists, appreciable increase is noticed in the States of Andhra Pradesh, Chhattisgarh, Goa, Jammu & Kashmir, Karnataka, Madhya Pradesh, Nagaland, Punjab and West Bengal. Significant increase in the number of paramedical staff is also observed when compared with the position of 2005.

#### **4.2.4. Shortages**

The public health system has a shortage of medical and paramedical personnel. Government estimates (based on vacancies in sanctioned posts) indicate that 18% of primary health centres are without a doctor, about 38% are without a laboratory technician, and 16% are without a pharmacist. Specialist allopathic doctors are in very short supply in the public sector; 52% of sanctioned posts for specialists at community health centres are vacant. Of these vacant posts, 55% are for surgeons, 48% are for obstetricians and gynaecologists, 55% are for physicians, and about 47% are for paediatricians. Many nursing posts are vacant 8% of posts for staff nurses and auxiliary nurse midwives at primary and community health centres are vacant. The number of primary and community health centres without adequate staff is substantially higher if high health-worker absenteeism is taken into consideration. In the public sector, shortages of laboratory technicians and pharmacists also exist. Similarly, the private sector has a lack of qualified health-care providers. Many unqualified healthcare providers work in the private sector, particularly in rural areas and the slums in urban areas. A consequence of the shortage of health workers is that many people in rural areas and those who are poor in urban areas receive inappropriate or no health care. The shortage of health workers in rural areas is because of both the disinclination of qualified

private providers to work there and the inability of the public sector to attract and adequately staff rural health facilities. Many health workers prefer to work in urban rather than rural locations because, in urban areas, they can earn a better income, can work more effectively (because of better access to, for example, equipment and facilities), have good living conditions, and have safe working and living environments, and because their children can have better education opportunities. For many medical graduates the desire for postgraduate specialisation dissuades them from entering the job market and from taking posts in the public sector in rural areas. Furthermore, higher salaries in the private sector than in the public sector are an incentive for doctors not to join the public health system. Nurses are more amenable to public sector employment than are doctors— nearly half the nurses in India work in government jobs. Public sector efforts to recruit and retain health workers in rural posts are also compromised by institutional factors such as changes in service rules; recruitment delays; the lack of transparency in identifying vacancies, promotions, and transfers; and the many court cases related to such matters that state health directorates face.

It is absorbed that the financial power given to the primary healthcare centres very limited which is as to be reviewed for effective management of PHCs.

#### **4.3.0. Structure of Health Care Organization in India**

The Health Care Services Organization in the country extends from the national level to village level.

##### **4.3.1. Central level**

The organization at the national level consists of the Union Ministry of Health and Family Welfare. The Ministry has three departments, viz. - Department of Health & Family Welfare, Department of Ayurveda, Yoga-Naturopathy, Unani, Sidha & Homeopathy (AYUSH) and Department of Health Research. Each of these departments is headed by respective secretaries to Govt of India. The department of Health & Family Welfare is supported by a technical wing, the Directorate General of Health Services, headed by Director General of Health Services (DGHS).

##### **4.3.2. State level**

The organization at State level is under the State Department of Health and Family Welfare in each State headed by Minister and with a Secretariat under the charge

of Secretary/Commissioner (Health and Family Welfare). The State Directorate of Health Services, as the technical wing, is an attached office of the State Department of Health and Family Welfare and is headed by a Director of Health Services. The area of medical education which is with the Directorate of Health Services at the State is known as Directorate of Medical Education and Research. This Directorate is under the charge of Director of Medical Education, who is answerable directly to the Health Secretary/Commissioner of the State. Some states have created the posts of Director (Ayurveda) and Director (Homeopathy). These officers enjoy a larger autonomy, although sometimes they still fall under the Directorate of Health Services of the State.

#### **4.3.3. Regional level**

In some states like Bihar, Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Karnataka and others, zonal or regional or divisional set-ups have been created between the State Directorate of Health Services and District Health Administration. Each regional/zonal set-up covers three to five districts and acts under authority delegated by the State Directorate of Health Services.

#### **4.3.4. District level**

All health care programmes in a district are placed under a unified control. It is a link between the State/ regional structure on one side and the peripheral level structures such as PHC/ sub-centre on the other side. The district officer with the overall control is designated as the Chief Medical and Health Officer (CM & HO) or as the District Medical and Health Officer (DM & HO). These officers are popularly known as DMOs or CMOs, and are overall in-charge of the health and family welfare programmes in the district. These DMOs/CMOs are assisted by Dy. CMOs and programme officers.

#### **4.3.5. Community level**

For a successful primary health care programme, effective referral support is to be provided. For this purpose one Community Health Centre (CHC) has been established for every 80, 000 to 1, 20, 000 population, and this centre provides the basic specialty services in general medicine, pediatrics, surgery, obstetrics and gynecology.

#### **4.3.6. Community Health Centres (CHCs)**

CHCs are being established and maintained by the State Government. It 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, Xray, 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, 2011, there are 4, 535 CHCs functioning in the country. The present staffing pattern of CHCs.

**Table – 4.11. Staffing Community Health Centre**

	Staff For Community Health Centre	Existing	IPHS proposed
1	Medical Officer	4	7
2	Nurse Mid-Wife (staff Nurse)	7	9
3	Dresser	1	1
4	Pharmacist/Compounder	1	1
5	Laboratory Technician	1	1
6	Radiographer	1	1
7	Ward Boys	2	2
8	Dhobi	1	-
9	Sweepers	2	2
10	Mali	1	-
11	Chowkidar	1	-
12	Aya	1	-
13	Peon	1	-
14	OPD Attendant	-	5
15	Stat Asst. / Data Entry Operator	-	-
16	OT attendant	-	-
17	Registration clerk	-	-
18	Ophthalmic Asst.	-	1
Total		25	31
# : Surgeon, Obstetrician, Physician, Pediatrician, Anaesthetist, Public health Programme manager, Eye surgeon.			
* Sr No. 11, and 14 - 17 - total 5, flexibility rests with State for recruitment as per need			

#### **4.3.7. Primary Health Centre (PHC)**

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 referred from Sub-centres for curative, preventive and promotive health care. The Bhole Committee in 1946 gave the concept of a PHC as a basic health unit to provide as close to the people as possible, an 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 visualized 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. These centres were functioning as peripheral health service institutions with little or no community involvement. They were not able to provide adequate health coverage, partly, because they were poorly staffed and equipped and lacked basic amenities. The 6th Five year Plan (1983-88) proposed reorganization of PHCs on the basis of one PHC for every 30,000 rural populations in the plains and one PHC for every 20,000 population in hilly, tribal and backward areas for more effective coverage.

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 curative, preventive, Family Welfare Services and promotive aspects of health care. One Primary Health Centre covers about 30,000 (20,000 in hilly, desert and difficult terrains) or more population. Many rural dispensaries have been upgraded to create these PHCs. 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 and refers out cases to Community Health Centres (CHCs-30 bedded hospital)/sub-district/district hospitals. It has 4-6 indoor beds for patients. There are 23, 673 PHCs functioning as on March 2011 in the country. The staffing pattern of new primary health centre.

**Table - 4.12. Staffing Primary Health Centre**

S.No	Staff For primary Health Centre	Existing	IPHS proposed
1	Medical Officer	1	2
2	Pharmacist	1	1
3	Nurse Mid-wife (Staff Nurse)	1	1
4	Health Worker (Female)/ANM	1	1
5	Health Educator	1	1
6	Health Assistant (Male)	1	1
7	Health Assistant Female)/ LHV	1	1
8	Upper Division Clerk	1	1
9	Lower Division Clerk	1	1
10	Laboratory Technician	1	1
11	Driver (Subject to availability of Vehicle)	1	

12	Class IV	4	4
Total		15	17/18
*Optional / vehicle may be outsourced			

#### 4.3.8. Sub-Centre

The Sub-Centre is the most peripheral and first contact point between the primary health care system and the community. Sub-Centres are assigned tasks relating to interpersonal communication in order to bring about behavioral change and provide services in relation to maternal and child health, family welfare, nutrition, immunization, diarrhoea control and control of communicable diseases programmes. The Sub-Centres are provided with basic drugs for minor ailments needed for taking care of essential health needs of men, women and children. There are 1, 47,036 Sub Centres functioning in the country as on March 2011. Currently a Sub-centre is staffed by one Female Health Worker commonly known as Auxiliary Nurse Midwife (ANM) and one Male Health Worker commonly known as Multi Purpose Worker (Male). One Health Assistant (Female) commonly known as Lady Health Visitor (LHV) and one Health Assistant (Male) located at the PHC level are entrusted with the task of supervision of all the Sub-centres (generally six sub-centres) under a PHC. The Ministry of Health & FW, GOI provides assistance to all the Sub-centres in the country since April 2002 in the form of salary of ANMs and LHVs, rent (if located in a rented building) and contingency, in addition to drugs and equipment kits. The salary of Male Health Worker is borne by the State Governments. The staffing pattern of sub-centre.

**Table – 4.13. Staffing sub Centre**

S.No	Staff for Sub Centre	Existing	IPHS proposed
1	Health Worker(Female)/ANM	1	2
2	Health Worker (Male)	1	1
3	Voluntary Worker (optional on honorarium)	1	1
Total		2/3	3/4

#### 4.4.0. Structure of the Health Care Delivery System in Andhra Pradesh

Andhra Pradesh is the fifth largest state in India, with an area of nearly 278,000 square kilometers, accounting for 8.4 percent of India's territory. It is also the fifth most populous state with a population of 76 million. Administratively, the state is divided into 23 districts, 79 revenue divisions, 1,123 mandals (cluster of villages), about 27,000

villages and 264 towns. Over 75 percent of its land is covered by river basin. The economy of the State is largely dependent on agriculture. Both the public and the private sector provide Indian traditional medicine, e.g. Ayurveda and Homoeopathy. However allopathic medicine is the dominant system of medicine in both sectors.

#### **4.4.1. Public Sector**

The Department of Health, Medical and Family Welfare (DoHMFw) was set up in 1922 as the nodal agency for delivery of primary and secondary health care to the people of the State. Primary objectives of DoHMFw are (I) to provide quality, accessible, equitable, affordable and guaranteed health services to the poor, both in rural and urban areas and (ii) facilitating, partnering and providing regulatory frameworks for private sector and civil society health services. The existing health system in Andhra Pradesh is very complex and has multiple entities coordinating with one another on issues related to health service delivery. The Department Health, Medical and Family Welfare consists of ten organizations namely

1. Andhra Pradesh Vaidya Vidhana Parishad,
2. Andhra Pradesh Health Medical Housing and Infrastructure Development Corporation,
3. Andhra Pradesh State AIDS Control Society,
4. Commissionerate of Family Welfare,
5. Directorate of Health Services,
6. Directorate of Medical Education,
7. Institute of Preventive Medicine,
8. Andhra Pradesh Yogadhyana Parishad,
9. Drugs Control Authority and
10. Ayurveda, Yoga, Naturopathy, Unani, Siddha (AYUSH).

The department also oversees the following autonomous bodies: Sri Venkateswara Institute of Medical Sciences (SVIMS), NTR University of Health Sciences, MNJ Cancer Hospital and Andhra Pradesh Aromatic Plants Board. With the inception of the Andhra Pradesh Health Sector Reform Programme, the Strategic Planning and Innovation Unit (SPIU) and State Program Management Unit (SPMU) have become autonomous bodies overseen by the DoHMFw as well.

#### **4.4.2. Organization of Health Delivery System in Public Sector**

In the public sector there are four types of service delivery units based on the levels of care provided by these units: 1) Sub Centers, 2) Primary Health Centers, 3) Community Health Centers and 4) District Hospitals.

**4.4.2.1. Sub Centers:** Sub center, also known as a sub health center, is the first contact point between the primary health care system and the community. As per the government norms, there is one sub center for every 5,000 people in plain areas and for every 3,000 people in non plain areas, e.g. hilly and tribal areas. It is the most peripheral of the service delivery, with referral system linking it to the primary health center, which caters to 20,000 – 30,000 population. A sub center is the most accessible health care center to the community at the grass root level and provides all the primary health care services. These health services include: antenatal, natal and postnatal care, immunization, prevention of malnutrition and common childhood diseases, family planning counseling and services. They also provide drugs, free of cost, for minor ailments such as diarrhea, fever, worm infestation etc. The sub center also carries out community needs assessment. Added to the above, the government implements several programs, both national health and family welfare related, that are being delivered through these sub- center workers (Price Waterhouse Coopers, 2008).

**4.4.2.2. Primary Health Centers (PHC):** The primary health center is a rung above the sub center in the three tier health system in the state. It is a basic health care unit that provides integrated curative and preventive health care to the population primarily in the rural areas, with emphasis on preventive aspects of health care. The primary health center, along with the sub centers, are designed to provide more effective coverage to the rural population on the basis of one primary health center for every 30,000 people in plain areas and one for every 20,000 people in hilly and tribal areas. Primary health centers are the main service delivery units of rural health services, often the first main stop for health services from a qualified doctor in the public sector for the sick. These health centers act as the first referral unit to those who are directly reported by or referred from sub centers for curative and preventive health care. Every primary health center has 4–6 indoor beds for patients and it acts as a referral unit for 6 sub

centers. If the services at the primary health center do not meet the needs of the patients, they are referred to community health centers and higher order public hospitals at sub-district and district hospitals (Price Waterhouse Coopers, 2008).

**4.4.2.3. Community Health Centers (CHC):** These are the First Referral Units (FRUs) and form the secondary level of health care provision. The community health centers are designed to provide referral health care for cases from the primary health centers and for those patients in need of specialist care who approach the center directly. There are four primary health centers under each community health center, whereas each community health center caters to approximately 120,000 people in plain areas and 80,000 people in tribal and hilly areas. The community health centers are 30 bedded hospitals that provide specialist care in surgery and pediatrics, curative medicine, obstetrics and gynecology (Price Waterhouse Coopers, 2008).

**4.4.2.4. District Hospitals and Higher Referral Care Units:** The district hospital is the main port of call for the district health system. It functions as a secondary level of health care which provides curative, preventive and promotive healthcare services to the people in the district. It also forms the fundamental basis for implementing various health policies while it delivers healthcare and management of health services for a defined geographic area. Every district hospital is linked with other health service delivery units such as the sub district or sub divisional hospitals, community health centers, primary health centers and sub centers. The district hospitals caters to the people living in both urban areas, such as the district headquarters, towns and adjoining areas, as well as the rural areas of the district. The district hospital works not only as a curative center but also as an interface with the institutions external to it, including referring patients to other tertiary care centers for specialized care, including those controlled by non government and private voluntary health organization (Price Waterhouse Coopers, 2008).

#### **4.4.3. Private Sector**

Andhra Pradesh is the first State in India that has envisaged the role of private sector in its Vision 2020 in assisting the State efforts to achieve the health objectives (Rao, 2003). The private sector plays a dominant role in the delivery of health services in Andhra Pradesh and the State house several internationally renowned research institutes. The private sector accounts for over 72 percent of in patient admissions and over 85

percent of out patient contacts – both significantly above national averages (National Sample Survey, 52nd Round). The sector is however unregulated and data on quality and coverage is deficient (Rao, 2003). Obstetrics is the single largest specialization in the private sector (Center for Good Governance, 2006). The private health institutions can be broadly classified into for profit and non profit institutions:

1. The non profit or voluntary providers accounts for a very small share of health care services – one percent of ambulatory care and four percent of hospitalization services. The majority, 92.8 percent, of all voluntary services are situated in urban areas (Mahapatra, 2002).
2. The for profit providers are the major contributor to private health care services. These are provided by broadly three categories of persons/institutions (i) nonqualified providers, (ii) qualified proprietary clinics/nursing homes/hospitals and (iii) corporate hospitals.
3. The non qualified providers are also referred to as Registered or Rural Medical Practitioners (RMPs). Generally, the rural medical practitioners are unqualified nurses or assistants to doctors, who after gaining substantial experience act as the first contact for health care in villages. This cadre of health workers is widespread in the State and they are the most accessible and affordable sources of treatment for the poor, thus many turn to them for even serious diseases of children and adults. Thus their wide presence and coverage, there is no real evidence on the quality of care they provide. Some of the anecdotal evidence points to harmful practices reported in the State, indicating that there is an extensive use of unnecessary or inappropriate drugs in the care the Rural Medical Practitioners provide. This cadre furthermore plays an important role in the referring system, as links to private hospitals for recruiting patients for surgeries and tertiary care (Center for Good Governance, 2006).

Private medical doctors operate out of small clinics and small nursing homes that are mostly small in size with 30 or less bed capacity. The vast majority, 87 percent, of for profit hospitals fall under this category. The number of doctors and the size of the clinics and nursing homes are also dependent on the economic status of the population. Bed ratio of the public hospitals to private varies from 0.9 to 2.9 based on how economically

developed the district is (Mahapatra, 2002). There is however no systematic evidence on the quality of care for these types of providers (Center for Good Governance, 2006).

The Corporate sector in Andhra Pradesh entered health care delivery in 1989 with the establishment of Apollo Hospitals. There is uncertain knowledge of the exact size and nature of the corporate sector but a trend of expansion has been noticed in recent years. The State Government has further encouraged the corporatization of medical care by providing government land, while the central government has offered tax concessions on import of medical equipment (Narayana, 2003). Most of these corporate hospitals are large in size and are located in affluent urban areas of the State (Center for Good Governance, 2006). On April 1st, 2008, the Central Government prescribed a five year tax holiday for new health care facilities in tier II and tier III cities. This was seen as a first step by the government to incentivize investors to strengthen the health care infrastructure through the corporate sector.

#### **4.4.4. Public Private Partnerships**

Collaborations between the private sector and the government in the delivery of health services are of recent origin in Andhra Pradesh. The collaborations have effectively started during the early nineties, the period of inception of the World Bank projects – India Population Project VIII and Andhra Pradesh First Referral Health Systems Project. Many of the collaborations are continuing and take shape in various forms: buying and selling health services, contracting out clinical and non clinical services, facilitating and promotion of partnerships and pure business partnerships (e.g. telemedicine projects). The role of each sector in partnerships differs from project to project (Rao, 2003). A project for health care services in urban slums was a first innovative effort to contract private providers, non profit organizations, to provide primary health care. The Government of Andhra Pradesh has thereafter undertaken major initiatives with the private sector for health care delivery. Emergency Management and Research Institute (EMRI) is a non profit organization originally providing ambulance services in Hyderabad was in 2006 asked by the government to scale the services to cover rural areas. EMRI was contracted to provide ambulance services to the entire state and the government has thereafter contracted the sister organization Health Management and Research Institute (HMRI) to provide primary health care services through mobile vans

in rural areas and a toll free health helpline providing standardized medical information, advice and counseling. HMRI is furthermore conducting research for the government, based on the large amount of health data the organization gathers through its services. HMRI also has several education initiatives including training of Rural Medical Practitioners to improve the quality of care and the link to the public sector. These public private partnership contracts are large, whereas HMRI receives government funding of more than USD 65 million per year for the services provided. These initiatives are still young and the impact is not yet evaluated.

Though it is noteworthy how these partnerships have enabled new approaches to health care delivery. Health care providers, researchers and policy makers around the world have shown interest in the innovations sprung from the public private partnerships in Andhra Pradesh. The government has, however, been criticized for the management of the contracts and for lack of transparency, though noble intentions of the partnerships. The combination of the private sector's ability to spur innovation and the public sector's funding and broad reach have laid a good foundation for large scale pilots. Hopefully such efforts will continue to arise and be maintained, while improving transparency, cost effectiveness measurements and monitoring.

#### **4.4.5. Findings and Suggestions**

The evaluation study clearly brings out the fact that PHCs have not been able to render specialised health care services for which these were established. The constraints to utilisation of their services as identified are the inadequacies in infrastructure, non-availability of medical specialists and Para-medical staff and non-functional complementary facilities. Notwithstanding these constraints and sub-optimal utilisation, the majority of the beneficiaries expressed their preference for the services of public health care institutions to those of other alternatives. For improvement in access to public health care services, the following measures can be suggested:

1. As only 43% of the required number of PHCs have been established, a significant increase in the allocation of plan resources for the health sector is needed to close the supply gap. It seems unlikely that the resources required for closing the gap will be available from budgetary provisions alone. Alternative sources of funds

- and /or alternative modes of delivery of health care services need to be explored to meet the demand for specialised health care services in the rural areas.
2. As the effective utilisation of a PHCs as a referral centre depends on its ability to provide the complete package of services required for specialised health care, efficient utilisation of available resources warrants its use in closing the supply gap in infrastructure and manpower of the existing PHCs. The complementarity of facilities and manpower of health care institutions should get primacy over other considerations in allocation of resources, as thin spread of resources over a large number of health care institutions has led to sub-optimal utilisation of facilities created. It is advisable to make in each district a few PHCs fully equipped with all complementary facilities and manpower to discharge the intended functions of PHCs and disseminate the information about their functionality among the villages of the district through PRIs so that the people in the district can take full advantage of these well-equipped PHCs.
  3. For some people, even a distance of more than 50 kms was not a constraint, while for some others, a distance of a little over 10 kms was inconvenient. However, what comes out clearly from the survey is that, wherever some ‘medical specialists’ and the rudimentary infrastructure are available and functional, people have braved all inconveniences and made use of the services available in PHCs. Thus, what is of utmost importance is whether a PHC is equipped to deliver specialised health care services.
  4. The monitoring of the functioning of PHCs and removal of constraints to utilization are important issues that need to be addressed for improvement in access to health care services. Non-availability of doctors (in position) for consultation and non-functionality of existing equipments have been noted in PHCs which are otherwise equipped to deliver the intended services. Perhaps, the routinised departmental monitoring can be supplemented by a Monitoring Committee (at the district level) comprising the CMO/DHO and representatives of the Panchayati Raj Institutions.
  5. However, this observation should not be taken to mean the “distance” and “lack of communication” infrastructure are of no significance at all. In tribal and desert

areas, these do affect accessibility considerably. Moreover, people sometimes use the services of a PHCs (even if it is located inconveniently) under forced circumstances, e.g., non-availability of facilities from alternate sources and inability to pay for private health care services.

6. There is an urgent need for setting up of a stander procedure to go into some basic issues relating to the operational aspects of the rural health care institutions.

#### **4.4.6. Conclusion**

The profession of healthcare management is challenging and requires that persons in managerial positions at all levels of the organization possess sound conceptual, technical, and interpersonal skills in order to carry out the required managerial functions of planning, organizing, staffing, directing, controlling, and decision making. In addition, managers must maintain a dual perspective where they understand the external and internal domains of their organization, and the need for development at the self, unit/team, and organization levels. Opportunities exist for managerial talent at all levels of a healthcare organization, including supervisory, middle management, and senior management levels. The role of manager is critical to ensuring a high level of organizational performance, and managers are also instrumental in talent recruitment and retention as well as succession planning.

Augmenting financial resources to health sector through public and private sources is important task. However, simple allocation more resources to health sector may not produce desired efficiency. Health sector is in need of major reforms. Existing facilities in the health sector are not being used by people because of low quality, irregular attendance of medical staff, inadequate equipment, and poor maintenance and upkeep. Some of these can be ensured through better allocation of resources. Most of the problems are more systemic in nature and needs major reform to make health sector responsible. The commitment and motivation of providers in public sector is critical to ensure that allocations produce desired results (Bhat and Maheshwari 2004). The reforms have focus not only on public domains of health sector but also private sector. For example, a large number of private medical practitioners in rural areas are untrained and unqualified. Lack of decentralisation has frequently led to a mismatch between local needs and the health services on offer, and to low accountability of services and higher

inefficiency. A substantial proportion of the specialist posts in community health centres are vacant rendering many of them useless as first referral units. At the same time, the ratio of qualified doctors to para-medical and nursing personnel is lop-sided in India. There are severe imbalances in India between public and private health care; and within public health care between preventive and curative services; between primary, secondary and tertiary health care services; and between salary expenses and other recurrent expenditures.

The central and state governments are responsible for the provision of primary healthcare in the country. A spending of less than 1 per cent of the GDP on public health is not only dismally low but most of the expenditure is on staff salaries leaving little or nothing for facilities, drugs and other consumables. The large existing network of public primary care facilities can and should be used more effectively with the help of private partnerships to enable better delivery. Building better forward and backward linkages through a superior referral system would cause the secondary and tertiary care facilities to be more manageable and prevent them from being over burdened.

The Medical Officer of Primary Health Centre (PHC) is responsible for implementing all activities grouped under Health and Family Welfare delivery system in PHC area. He/she is responsible in his individual capacity, as well as over all in charge for his curative, preventive and promotive care of the patients. He will organize training programmes including continuing education for the staff and carry out all administrative activities required for smooth running of the PHC. The health assistant female will supervise, guide and train the Health Worker Female, Dais and ASHAs; and also visit each Sub-centre at least once a week. The Health Assistant Male will strengthen the knowledge and skills of the health worker male and supervise and guide him in the delivery of health care

## CHAPTER – V

### DATA ANALYSIS AND INTERPRETATION

#### SECTION –A: PERCENTAGE ANALYSIS

In the previous chapters, the study outlined the provision of health-care in India, review of the literature regarding rural health-care management and conceptual frame of the study. It also described the existing and potential health problems that affect the population of Andhra Pradesh.

The present chapter will analyse the primary health-care delivery services management practices in Andhra Pradesh as a specific study by selecting primary health-care centres in three regions - Andhra, Telangana and Rayalaseema (Guntur, Mahaboob Nagar and Anantapur). The first section focuses on the beneficiaries' demographic profile, preliminary information their visits to the primary health-care centres, Current status of management of rural healthcare in AP with focus on supply and stores management, training of medical staff, patient care management, leadership and participative management, availability of good laboratory services, quality of healthcare delivery services, infrastructure facility and availability of essential drugs in healthcare centres has been analysed. Different statistical tools like percent analysis, chi-square and factor analysis were used. Performance of the primary health-care centres, primary health-care services providing infrastructure facilities, primary health-care delivery services, and quality of services, community participation and coordination with the community by ASHA/VHW/AWW.

In this chapter, the study will present the analysis of the responses to a survey conducted using a structured questionnaire. Initially, the study intended to ask the respondents about the ongoing government policy that ensures primary health-care delivery and providing infrastructure facility in PHCs to rural areas, in the hope of getting an understanding of their perceptions of possible benefits, indifference, drawbacks and also an overall grasp of the efficacy of such policies to the rural population.

However, when a pilot study was conducted and also during the course of the research study, it was found that the majority of the respondents were not aware of the

specific government programmes and were virtually unconnected and uninformed about the health-care policies of government authorities and neither did they believe that they had any say in the functioning of the government. Therefore, the study formulated a questionnaire and asked them their views about accessing current health-care services and their interactions with the health authorities. The questions were organised in a manner that would enable the respondents to state their views on current health-care provision, future expectations and also seek suggestions for possible changes that are needed to ensure effective delivery of health-care services. Finally, this chapter concludes with comments about rural health-care delivery services like infrastructure, quality, providing facilities, and community participation.

### 5.1. Demographic Profile

Demographic profile is an essential part for any research study. It contains basic information about the respondents of the study. The information includes: beneficiary's age, gender, educational qualification, occupation, income level, and name of the district, etc., to which he/she belongs. The survey was conducted on 900 beneficiaries from three districts in Andhra Pradesh mentioned above.

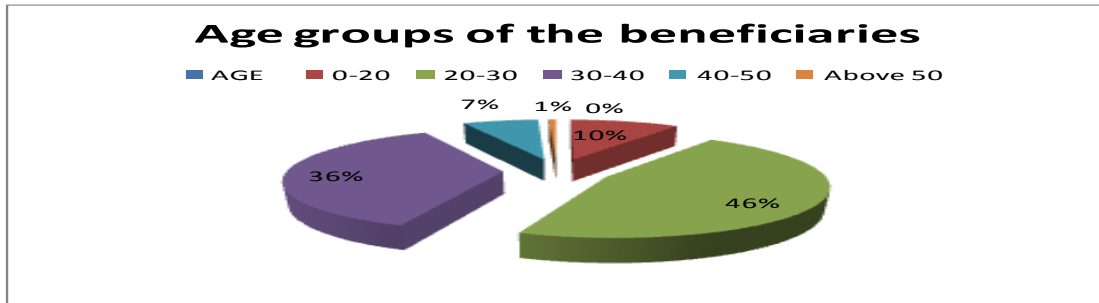
### 5.2 Age Group of the Beneficiaries

Table 5.1 represents the distribution of respondent of different age groups. Out of total 900 respondents, 37 percent are in the age group of 20 to 30 years, 36 percent, in the age group of 30 to 40 years, 17 percent in the 40-50 years age bracket and only 2.5 percent in the above 50 years age group. This makes significant reading and poses the question 'Despite the higher probability of old age-related ailments, how is it that the proportion of elderly persons availing of the benefits of PHCs is so low in all the districts? Is it that they accept their medical condition as 'incurable' and hence feel visiting PHCs as a waste of time or they are unable to find escorts to take them to the PHCs? The concerned medical authorities need to address this issue.

**Table 5.1: Age Group Classification**

Name of the District				
Age Group (in Years)	Mahaboob Nagar	Anantapur	Guntur	TOTAL
0-20	29(9.9%)	19(6.3%)	2(0.67%)	50 (5.5%)
20-30	139(46.3%)	153(51%)	41(13.1%)	333(37%)

30-40	110(36.6%)	82(21.3%)	148(49.3%)	340(36.6%)
40-50	20(6.6%)	44(14.6%)	90(30%)	154(17.11%)
Above 50	2(0.66%)	2(0.66%)	19(6.3%)	23(2.55%)
TOTAL	300(100%)	300(100%)	300(100%)	900(100%)

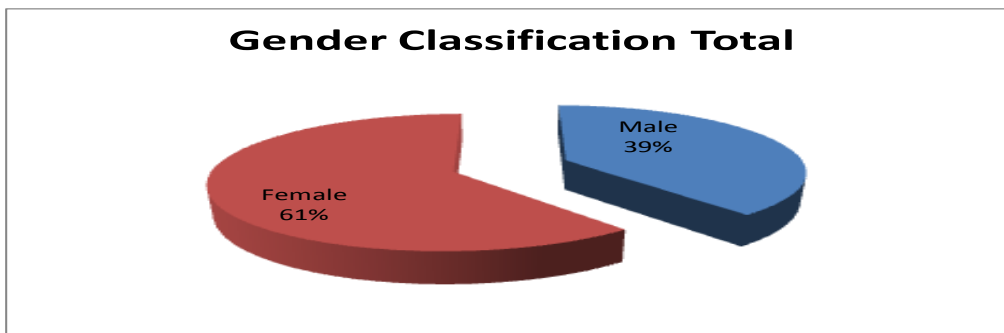


### 5.3 Gender Classification

The above figure highlights that out of the total 900 respondents, female beneficiaries constitute 61.3 percent. It is also found that, male beneficiaries did not respond in the same manner as their female counterparts. This issue is found to be applicable for all the three districts under study.

**Table 5.2- Gender Classification**

Name of the District				
Gender	Mahaboob Nagar	Anantapur	Guntur	TOTAL
MALE	118(39.3%)	114(38%)	119(39.6%)	349(39%)
FEMALE	182(60.6%)	186(62%)	181(60.3%)	552(61.3%)
TOTAL	300(100%)	300(100%)	300(100%)	900(100%)

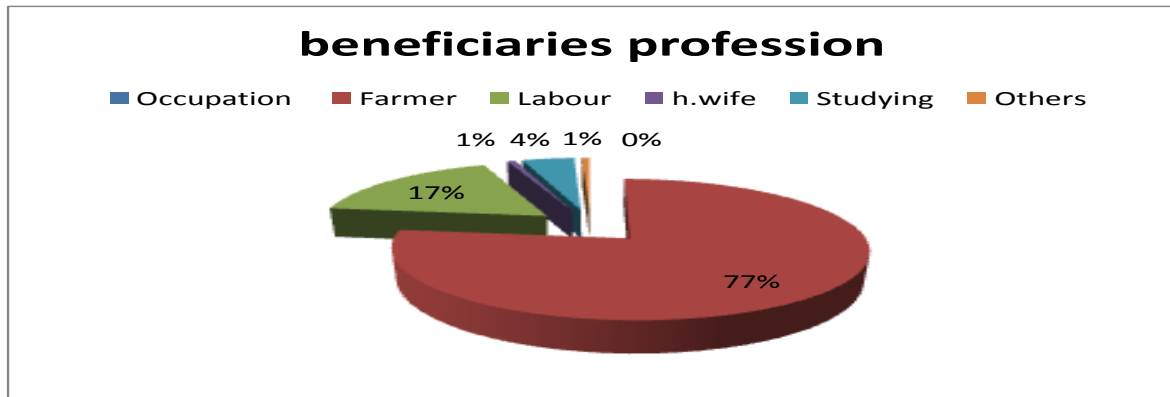


#### 5.4 Beneficiaries' Occupation

Occupation of the respondents is an important demographic factor that influences the analysis of PHCs. The sample beneficiaries were divided in five different occupations. They included: farmer, labour, student, housewife and others. The majority of the beneficiaries are farmers (68.6 per cent), followed by labour group and students.

**Table 5.3- Classification of Beneficiaries occupations**

Occupation	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	TOTAL
Farmer	231(77%)	214(71.3%)	173(57%)	618(68.6%)
Labour	52(17.3%)	52(17.3%)	120(40%)	224(21.8%)
Housewife	2(0.66%)	1(0.33)	3(1%)	6(0.66)
Student	13(4.3%)	1(0.33%)	3(1%)	17(1.88)
Others	2(0.66%)	32(10.6%)	1(0.33%)	35(3.88)
Total	300(100%)	300(100%)	300(100%)	900(100%)



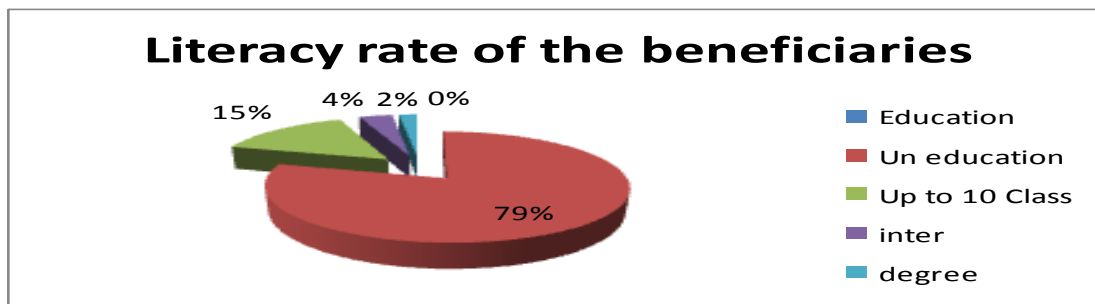
#### 5.5 Literacy Rate of the Beneficiaries

The above Table 5.4 represents the respondents' literacy rate. The respondents are divided on the scale of literacy rate - illiterate, up to 10 classes, inter and degree. It can be seen that 77 percent are illiterate, and 10 percent have studied up to tenth class. A realistic assumption can be made here that the respondents who visit these primary health-care centres belong to the relatively low literacy level groups.

**Table 5.4- Literacy Rate of the Beneficiaries**

Education	Name Of The District			TOTAL
	Mahaboob Nagar	Anantapur	Guntur	
Illiterate	238(79.3%)	245(81.4%)	207(69%)	690(76.6%)
Up to 10 Class	45(5%)	23(7.5%)	37(12.3%)	87(9.6%)

inter	11(3.6%)	25(8.3%)	25(8.3%)	61(6.7%)
degree	6(2%)	7(2.3%)	21(7.0%)	13(1.4%)
Total	300(100%)	300(100%)	300(100%)	900(100%)

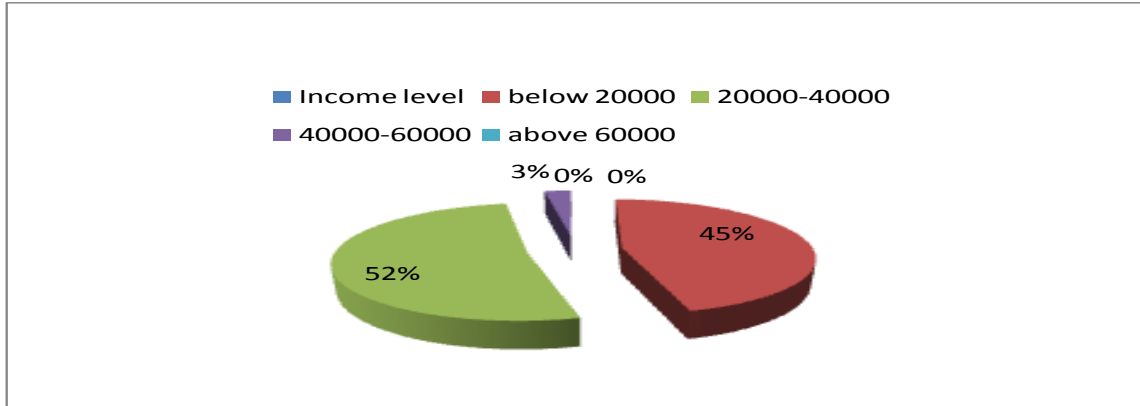


## 5.6 Annual Income of Beneficiaries

Total respondents have been divided into four income groups: (i) less than Rs. 20000, (ii) Rs 20000 to 40000, (iii) Rs 40000 to 60000, and (iv) greater than Rs 60000 per annum. Financial strength of an individual is an important driving force for the persons accessing the health-care centres. It can be seen that most (57.6) percent of the beneficiaries belong to the ‘between Rs 20000 to Rs 40000’ annual income range. This is true for all the districts. Another significant fact that emerges is that for the income level above Rs 60,000, except for Guntur district, none of the beneficiaries availed of this benefit. Even in Guntur, the number of respondents belonging to this income level who are visiting PHCs is very less.

**Table 5.5- Income Level of Beneficiary**

Income level	Name of the District			TOTAL
	Mahaboob Nagar	Anantapur	Guntur	
below Rs 20000	137(45.6%)	98(32.6%)	55(18.3%)	290(32.2)
Rs 20000-40000	155(51.6%)	179(59.7%)	185(61.3%)	519(57.6)
Rs 40000-60000	8(2.9%)	23(7.5%)	58(19.5%)	89(9.8)
above Rs 60000	0(0.0%)	0(0.0%)	2(0.99%)	2(0.22)
Total	300(100%)	300(100%)	300(100%)	900(100%)

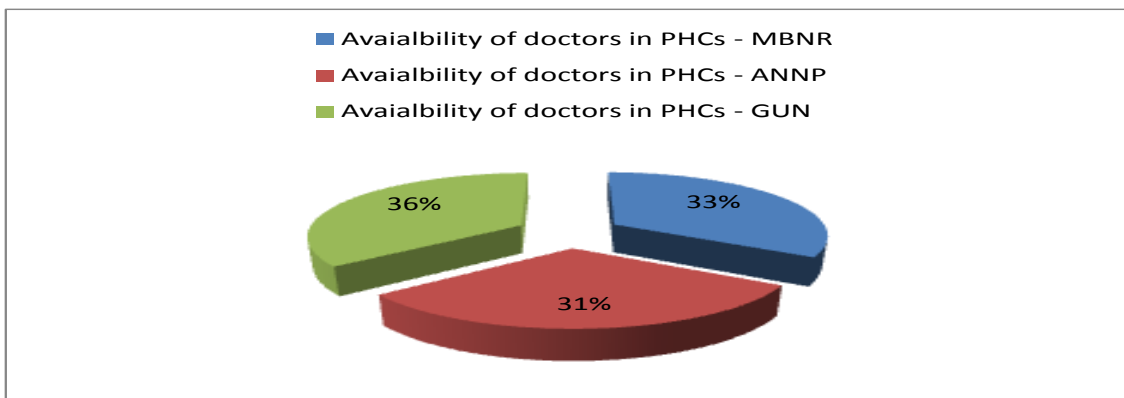


### 5.7 Preliminary Information about Beneficiaries at PHCs

As regards awareness about availability of doctors in PHCs, majority of the respondents in the three districts replied in the affirmative. However, the apparent high rate of awareness cannot be interpreted as a high rate of people accessing primary health-care. On analysing the data, it can be seen that there is a strong association (statistically significant) with the number of times the respondents actually access PHCs and it appears to correspond with the awareness about availability of doctors.

**Table 5.6- Awareness about the availability of doctors in rural health-care centres**

Are you aware about the availability of doctors in rural PHCs	Name of the District			TOTAL
	Mahaboob Nagar	Anantapur	Guntur	
Yes	198(66%)	183(61%)	211(70.3%)	592(65.7%)
No	102(34%)	117(39%)	89(29.6%)	308(34.2%)
Total	300(100%)	300(100%)	300(100%)	900(100%)



## 5.8 Availability of Doctors in PHCs

Table 5.6 depicts the responses to the question regarding awareness about the availability of doctors in rural PHCs. The responses are measured on the nominal scale. In all the three districts, the majority of the respondents are aware of the availability of doctors in primary health-care centres. The question arises how many of them make optimum use of the PHCs.

## 5.9 Frequency of Visits by the Beneficiaries to PHCs

Perhaps the apparent low access rate by the majority of respondents from PHC should give a clear indication that the relevance of the primary health-care network is rather undermined and diminished as the intended benefits do not seem to reach all the intended beneficiaries in the rural areas. It can be suggested that there is a weak demand for primary health-care in some villages, which subsequently can cause major obstacles in delivering health-care (Paul, 2004). There appears to be a poor progress of proper provision of health-care in remote PHC villages, which is usually replaced by unqualified providers or results in a pattern where villagers seek health-care from alternative sources.. Often it is quite a common sight to see urban centres overcrowded by villagers seeking primary care, which could have been managed in the rural network. Secondly, villagers are not using PHCs because they have other alternate sources readily available or end up suffering high rates of mortality only seeking help at a chronic or terminal stage. The low utilisation rate by the beneficiaries across all the three districts should be a cause for concern.

**Table 5.7 - Frequency of Visits by the beneficiaries in a year.**

How many time did you visit in a year	Name of the District			TOTAL
	Mahaboob Nagar	Anantapur	Guntur	
0-5	7(2.3%)	10(3.3%)	35(11.33%)	52(5.7%)
5-10	164(54.3%)	121(40.5%)	169(54.3%)	454(50.4%)
10-15	119(39.6%)	167(56.6%)	92(31.3%)	378(42%)
above 15	10(3.3%)	2(0.78%)	4(1.3%)	16(1.78%)
Total	300(100%)	300(100%)	300(100%)	900(100%)

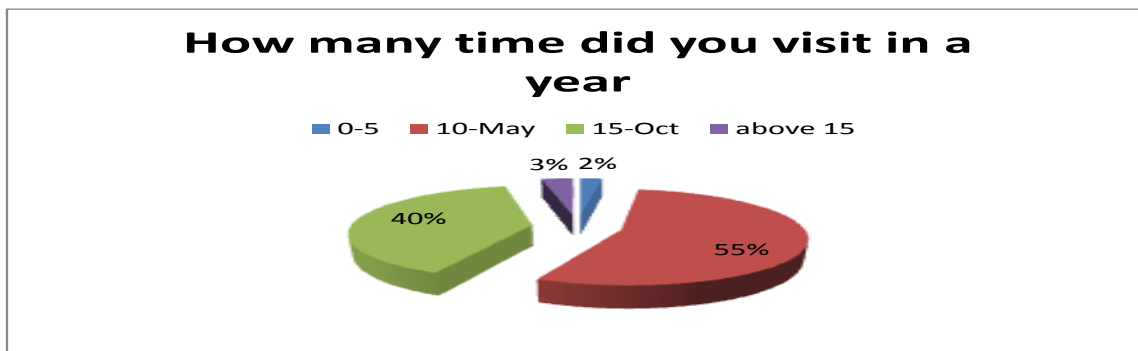


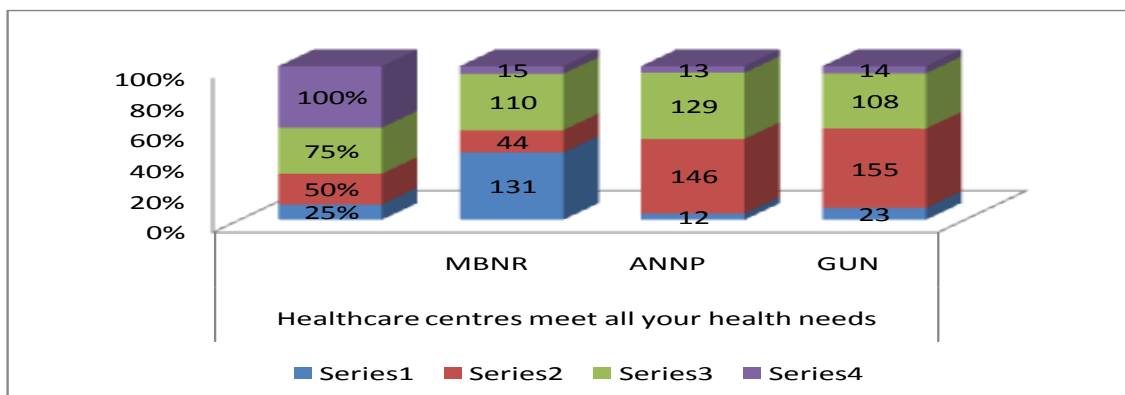
Table 5.7 represents the replies of the respondents who have visited the primary health-care centres in a year. The responses are measured on the scale of: (i) 0 to 5, (ii) 5 to 10, (iii) 10 to 15, and (iv) above 15. Out of the total 900 respondents, 50.4 percent visited the primary health-care centre 5 to 10 times in a year, and 42 percent of the beneficiaries, 10 to 15 times. The number of those making more than 15 visits in a year is insignificant in all the districts.

#### 5.10. Does the Health-Care Centre Meet all your Health Needs?

The responses have been divided into four groups: (i) Not at all, (ii) Reasonably, (iii) Very Much, and (iv) Fully. It can be seen from Table 4.8 that the responses ‘Reasonably’ and ‘Very Much’ in all the districts taken together are far more than the other two ones. However, a very large number of respondents in Mahaboob Nagar (43.5%) expressed the opinion ‘Not at all’. This should be a cause of some concern since the success of a PHC can be gauged by the degree of satisfaction of the beneficiaries.

**Tables 5.8 – Does the Health-care Centre meet all your Health Needs**

Does the health-care Centre meet all your health needs?	Name of the District			TOTAL
	Mahaboob Nagar	Anantapur	Guntur	
Not at all	131(43.5%)	12(4.0%)	23(7.8%)	166(18.6%)
Reasonably	44(14.9%)	146(48.0%)	155(51.6%)	345(38.6%)
Very much	110(33.6%)	129(43%)	108(39.0%)	347(38.9%)
Fully	15(5%)	13(4.3%)	14(3.9%)	42(4.9%)
Total	300(100%)	300(100%)	300(100%)	900(100%)

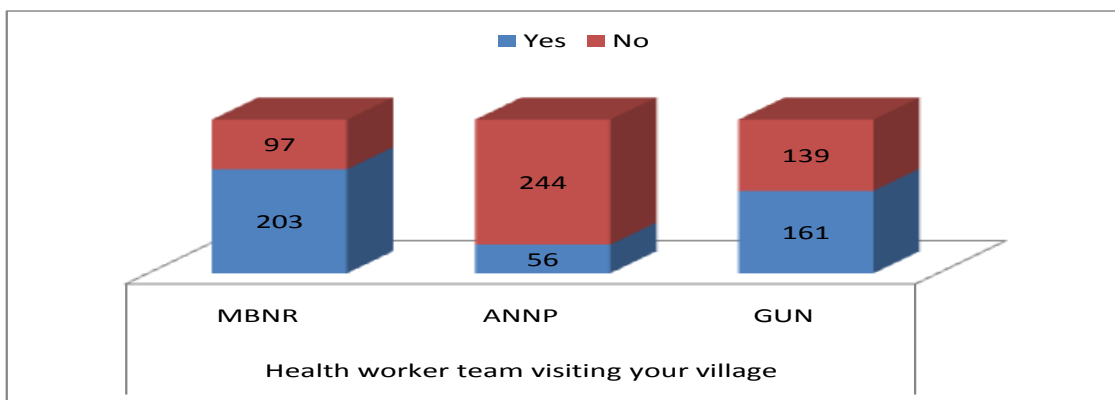


### Health Worker Team Visiting your Village

It can be seen that there is a wide degree of variance in responses to this question. In Mahaboob Nagar (67.3 percent) and Guntur (53.9%) the affirmative responses were more. However, 81.3 percent of the respondents in Anantapur replied in the negative. This suggests large scale absenteeism by the medical staff in Anantapur District. Urgent Steps need to be taken to remedy the situation. There may be instances where emergency cases are left untreated due to the 'irresponsibility' of the medical staff. Such a situation is totally unacceptable.

**Table 5.9 - Health worker team visiting your village**

Health worker team visiting your village	Name of the District			TOTAL
	Mahaboob Nagar	Anantapur	Guntur	
Yes	203(67.3%)	56(18.6%)	161(53.9%)	420(46.6%)
No	97(32.6%)	244(81.3%)	139(49.3%)	480(53.3%)
Total	300(100%)	300(100%)	300(100%)	900(100%)



## 5.12. Primary Health-Care Management Practices

### 5.12.1 Health-care Promotion Awareness Through The Programmes

Awareness about health-care promotion through the programmes plays a very significant role in the success of a primary health-care centre. The study has selected the five point Likart scale range from ‘Very Good’ to ‘Very Poor’. Table 5.10 brings out the large proportion of negative responses (especially in Mahaboob Nagar, where it is to the tune of 56%). It shows that government needs to take proper initiatives to promote the health-care awareness programmes among the beneficiaries.

**Table-5.10: Health-care Promotion Awareness through the Programmes**

Name of the Districts				
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	10(3.2%)	35 (11.3%)	34 (11.3%)	92 (10.3%)
Good	80(26.5%)	51 (17.1%)	39 (13.1%)	242 (26.8%)
Fair	41 (19.8%)	104 (34.9%)	114 (38.7%)	259 (27.8%)
Poor	152 (50.8%)	108(35.6%)	107(35.7%)	232(23.56%)
Very poor	17(5.6%)	6(2%)	6(2%)	75(8.6%)
Total	300(100%)	300(100%)	300(100%)	900(100.00%)

### 5.12.2 The Efforts taken by health Workers for providing health-care Services to the Beneficiaries

The efforts taken by health servants for providing health-care services to the beneficiaries is a major resource to the primary health-care centres in Andhra Pradesh. It can be seen from Table 5.11 that the respondents in all the three districts have tended to avoid the extreme responses ‘Very Good’ and ‘Very Poor’. There appears to be a positive perception (total of ‘Good’ and ‘Fair’) on this issue in Mahaboob Nagar (59%) and Guntur 63%). However, in Anantapur, the negative perception (‘Poor’ plus ‘Very Poor’ - total 48%) is very significant. This brings out that a lot still needs to be done to promote greater awareness about the health-care programmes.

**Table-5.11: the Efforts taken by health servants for providing health-care services to the Beneficiaries**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	53 (17.4%)	7 (2.4%)	34 (11.2%)	94 (10.4%)

Good	94 (31.9%)	44 (14.1%)	92 (30.0%)	230 (26.78%)
Fair	84 (27.2%)	105 (35.5%)	99 (33.4%)	288 (33.0%)
Poor	61 (30.6%)	107 (35.7%)	61 (31.6%)	229 (26.4%)
Very poor	8 (2.6%)	37 (12.7%)	14 (4.7%)	59 (6.6%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100.0%)

### 5.12.3. The Role of Doctors and Nurses in Improving the Health Condition of the Patients.

Doctors and nurses play a very significance role in primary health-care centres. The study has selected five point Likart scale range from ‘Very Good’ to ‘Very Poor’. Table 5.12 analyses the responses regarding the role of doctors and nurses in improving the health of the patients. It can be seen that in all the three districts, the proportion of those conveying a positive response (‘good’ plus ‘Fair’) is generally high. However, in Anantapur District, the totals of positive responses (‘Good’ plus ‘Fair’) are almost equal to the negative ones (‘Poor’ plus ‘Very Poor’). Sincere efforts are needed to change the negative perceptions about the medical staff.

**Table-5.12: the Role of Doctors and Nurses in Improving the Health Condition of the Patients**

Rating	Name of the Districts			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	23(7.7%)	9(3.0%)	28(18.3%)	60(6.40%)
Good	94(31.2%)	54(17.8%)	112(34.1%)	260(29.1%)
Fair	96(32.5%)	93(31.5%)	89(29.0%)	278(30.9%)
Poor	56(17.6%)	94(31.3%)	53(17.1%)	203(22.5%)
Very poor	26(7.3%)	50(17.5%)	23(7.2%)	99(11.0%)
Total	300 (100%)	300 (33100%)	300 (100%)	900 (100.0%)

### 5.12.4. Cleanliness in Health-care Centres:

A clean environment can help check the spread of diseases like malaria, plague, cholera and jaundice. Health workers are expected to impress on the target audience the need to keep the surrounding neat and tidy. However, if their own environs are shabby, their messages will not carry much conviction. Just as in the case of most other replies, this aspect too brings out that the proportion of extreme ratings – ‘Very Good’ and ‘Very Poor’ is much less compared to the other ones. Table 5.13 brings out that the overall

positive ratings – ‘Good’ plus ‘Fair’ are generally more than the negative ones – ‘Poor’ plus ‘Very Poor’. However, in the case of Anantapur District, these two ratings are almost equal. The concerned authorities need to impress on the medical staff to pay greater attention to the cleanliness aspect.

**Table- 5.13: Cleanliness in Health-Care Centres**

Name of the District				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	26(8.6%)	20(6.8%)	15(5%)	61(6.8%)
Good	105(35%)	44(14.7%)	70(23.6%)	213(24%)
Fair	91(30.4%)	107(35.6%)	111(37%)	309(33.6%)
Poor	59(19.3%)	103(34.4%)	81(27%)	243(26.6%)
Very poor	25(8.8%)	26(8.1%)	23(7.1%)	74(8.5.0%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100.0%)

#### 5.12.5. The Medical Staff Efficiency

Confidence in the efficiency of the medical staff is very essential for the success of a medical centre. If the patients feel that those taking care of their health needs are not very competent, they (the patients) may not feel very motivated to follow the advice given. Alternatively, they may opt for availing of medical services from other sources. Table 5.14 brings out the perceptions of the respondents regarding the efficiency of the health-care staff. It can be seen that the overall positive ratings (‘Good’ plus ‘Fair’) outweigh the negative ones (‘Poor’ plus ‘Very Poor’). However, it is pertinent to bring out here that the figures are almost equal in the case of Anantapur District. The message that emerges is that there should be greater focus on improving the level of confidence of the intended beneficiaries so that health-care centres can perform their functions more effectively.

**Table -5.14: The Medical Staff Efficiency**

Name of the District				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	10(3.2%)	16(5.8%)	26(8.0%)	52 (5.8%)
Good	81(27%)	40(16.9%)	62(32.9%)	183(20.0%)
Fair	126(42%)	97(32.9%)	113(34.6%)	336(37.0%)
Poor	50(16.6%)	103(34.0%)	91(30.4%)	243(27.6%)
Very poor	17(5.8%)	45(15%)	24(8%)	86(8.0%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100.0%)

### 5.12.6. Follow-Up, Monitoring Of Patients.

Follow-up and monitoring the process of patients is an important component of the treatment process. If these are not adequate, there is every possibility of a relapse. It can be seen that the sum of the positive responses ('Very Good', 'Good' and 'Fair') is more than the sum of the negative ones ('poor' and 'Very Poor') in Mahaboob Nagar and Guntur. However, in Anantapur, the negative ratings are more in number. It is also pertinent to mention here that the number of ratings 'Very Poor' is much more than the 'Very Good' ratings in all the three districts. There is need to be addressed on priority.

**Table- 5.15: Follow-Up, Monitoring of Patients.**

Name of the District				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	11(3.6%)	5(1.9%)	20(6.6%)	36 (3.8%)
Good	61(20.7%)	33(11.0%)	56(18.3%)	150(16.5%)
Fair	83(27.1%)	100(33.1%)	96(32.3%)	302(33.8%)
Poor	97(32.8%)	120(40.1%)	105(35%)	299(33.0%)
Very poor	39(13.5%)	42(14.2%)	32(10.3%)	113(12.5%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100.0%)

### 5.12.7. Adequacy of Staff Services.

A PHC can perform its functions adequately only when it has sufficient staff services available. Many of the health issues may need to be tackled on the spot itself and referring serious cases to higher and more specialised medical centres may result in loss of time which may at times turn out to be fatal. Table 5.16 brings out that only in Guntur district did a large number of respondents find these services to be 'Perfectly Adequate'. Majority of the respondents in Mahaboob Nagar (41.6%) and Anantapur (39.6%) gave the rating 'Moderately Adequate'. Vigorous efforts need to be undertaken by the medical authorities to ensure that the staff services are reasonably adequate. Otherwise, the very purpose of establishing a PHC may be defeated. There is a need for improving human resources management function at the PHC level.

**Table-5.16: Adequacy of Staff Services**

Name of the District				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	25(8.5%)	18(6.0%)	114(37.4%)	82 (9%)

Fairly adequate	72(23%)	53(17.5%)	69(23.9%)	247(27%)
Moderately adequate	125(41.6%)	119(39.6%)	39(13%)	305(33.6%)
Fairly inadequate	39(13.4%)	90(30%)	72(27.8%)	201(22.5%)
Very inadequate	25(8.5%)	20(6.8%)	20(6.8%)	65(7.40%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

### 5.12.8. Availability of Medicines

It needs to be emphasised here that proper intake of the necessary medicines is very much an integral part of the treatment process. In a rural setting, the patient may not be able to afford the cost of medicines. Also, unlike urban areas, there may not be any medical shop nearby to procure medicines not available in the PHC. Hence, for a PHC to be able to perform its responsibilities effectively, it should be adequately stocked with medicines to deal with both routine and emergency cases. Table 5.17 clearly brings out that in all the three districts, very few respondents gave the rating 'Perfectly Adequate' or 'Very Inadequate'. Most of the responses in all the three districts ranged between 'Fairly Adequate' and 'Fairly Inadequate'. Steps need to be taken to improve the stock position of medicines in the PHCs so that the beneficiaries are assured of better medical care. There is need for improving supply and store management function at PHC level.

**Table -5.17: Availability of Medicines**

Rating	Name of the Districts			Total
	Mahaboob Nagar	Anantapur	Guntur	
Perfectly adequate	41(17%)	43(14.1%)	26(8.6%)	82 (9.3%)
Fairly adequate	63(21%)	60(20.0%)	68(22.6%)	247(29.5%)
Moderately adequate	95(31.4%)	83(27.1%)	72(23.0%)	305(33.3%)
Fairly inadequate	72(24.0%)	103(34.9%)	115(36.7%)	201(22.5%)
Very inadequate	29(9.2%)	11(3.6%)	19(6.2%)	65(6.5%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

### 5.12.9. Adequacy of Rooms

In any medical setting, there are generally two types of patients – in-patients (who are required to stay in the hospital itself since the treatment process is such) and out-patients (who can be attended to on the spot itself and need not stay back for further monitoring of their health condition). Also, in-patients may need 24 hrs monitoring. Adequacy of rooms would enable handling of late night emergencies. In Mahaboob

Nagar and Anantapur, the total of negative ratings ('Fairly Inadequate' plus 'moderately Inadequate'- 62% and 72% respectively ) is more than that of positive ones ('Fairly Adequate' plus 'Moderate Adequate'). However, in Guntur District, the sum of the two positive ratings is about 62%). It is suggested the number of rooms in PHCs (especially in districts like Mahaboob Nagar and Anantapur) be increased.

**Table-5.18: Adequacy of Rooms**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	11(3.6%)	24(8%)	30(10%)	65(7%)
Fairly adequate	69(23%)	39(13%)	81(27%)	189(21.0%)
Moderately adequate	31(10.1%)	20(6.8%)	103(34.7%)	335(35.9%)
Fairly inadequate	80(26.5%)	94(31.3%)	65(21.2%)	239(36.6%)
Very inadequate	109(35.5%)	123(40.7%)	21(7%)	72(8%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### 5.12.10. Availability of Beds

It is not always enough to have a number of rooms in any hospital. Even more important is whether sufficient numbers of beds are available for the patients. Off and on one comes across instances of even terminally ill patients being forced to sleep on the floor on shabby mattresses in over-crowded corridors. One can well imagine the quality of treatment they would be receiving. Beds need to be neat and arranged in reasonably well-ventilated rooms. Table 5.19 brings out that the majority of respondents in all the districts have generally avoided the extreme ratings – 'Perfectly Adequate' and 'Very Inadequate'. A significant fact that emerges is that the totals of the positive ratings ('Perfectly Adequate' and 'Fairly Adequate') are more than those of the negative ones ('Fairly Inadequate' and 'Very Inadequate') in all the three districts. It only remains to be seen how many of the respondents have actually 'utilised' this facility and have merely filled in the responses just as a matter of routine!

**Table-5.19: Availability of Beds**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	40(13.4%)	25(8.3%)	55(18.3%)	120(13.3%)
Fairly adequate	71(23.6%)	64(21.3%)	92(30.5%)	227(25.6%)

Moderately adequate	101(33.9%)	118(39.6%)	98(32.9%)	317(35.6%)
Fairly inadequate	67(22.4%)	71(23.6%)	48(16%)	186(20.4%)
Very inadequate	21(7%)	22(7.4%)	7(2.6%)	50(5.5%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### 5.12.11. Availability of Laboratory Services

Proper treatment for many ailments can commence only after the reports (blood, ECG, urine, X ray, etc) are scanned. No wonder, laboratory services are integral parts of good hospitals. In the absence of these, the reports have to be procured from outside sources – often at exorbitant costs. In a rural setting, clinical laboratories may not be available in the vicinity. It is, therefore, imperative that rural PHCs are equipped with at least the basic laboratory services. Table 5.20 depicts the ratings on this issue. It can be seen that, in all the three districts, the positive responses ('Fairly Adequate' plus 'Moderately Adequate') are more than the negative ones ('Fairly Inadequate plus 'Very Inadequate'). Efforts should, nevertheless, be made to significantly enhance the satisfaction levels of the beneficiaries on this score.

**Table-5.20 Resources of Laboratory Services**

Rating	Name of the Districts			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	27(9%)	22(7.2%)	55(18.6%)	104(11.6%)
Fairly adequate	84(28.0%)	67(22.9%)	89(29.7%)	240(26.5%)
Moderately adequate	89(29.7%)	77(25.3%)	109(36.2%)	293(32.5%)
Fairly inadequate	65(31.6%)	95(31.4%)	54(18%)	196(21.4%)
Very inadequate	35(31.2%)	25(8.3%)	7(2.4%)	67(22.3%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### 5.12.12. Availability of Mobile Medical Vans, When Required

Mobile medical vans are very essential for the success of any hospital. These greatly enhance the mobility of the medical personnel – especially for their visits to remote areas and for bringing seriously ill patients to the hospital. Table 5.21 below presents the ratings on this aspect. It can be seen that the satisfaction levels are more on the positive side in all the three districts. However, a lot more can be done to further improve the situation.

**Table-5.21: Mobile Medical Vans are Available when Required**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	36(12%)	20(6.3%)	38(12.6%)	94(10.6)
Fairly adequate	95(31.2%)	73(22.3%)	81(27%)	249(27.6%)
Moderately adequate	98(32.6%)	110(36.8%)	108(36%)	316(35.3%)
Fairly inadequate	55(18.6%)	65(21.5%)	60(20%)	180(20%)
Very inadequate	16(5.2%)	32(10.4%)	13(4.3%)	61(6.8%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

**5.12.13. Adequate Availability of Doctors for Women**

There are a number of ailments which are specific only to women. Hospitals, therefore, strive to have sufficient number of lady doctors with whom the female patients can feel more comfortable. Given the fabric of our rural society with its great insistence on privacy, female patients may feel hesitant to discuss their unique ailments with male doctors. Table 5.22 brings out the ratings on this score. It can be seen that in all the districts, the generally negative ratings are more than the generally positive ones. The lesson that emerges is that there is a pressing need to make available more doctors (preferably female) to attend to the specific needs of female patients of the PHCs.

**Table-5.22: Adequate Availability of Doctors for Women**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	16(5.4%)	30(10%)	28(9.5%)	74(8.5%)
Fairly adequate	74(24.6%)	28(9.5%)	16(5.6%)	54(5.6%)
Moderately adequate	10(3.5%)	86(28.5%)	114(38%)	324(36.3%)
Fairly inadequate	76(28.5%)	61(20.4%)	66(22%)	203(22.6%)
Very inadequate	124(41.3%)	95(31.8%)	76(25.4%)	245(28.4%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

**5.12.14. Doctor and Nurses Availability for Mobile Medical Vans are Adequate**

A medical van is much more than drivers and attendants to ferry the patients to and from the hospital. It is equally important that doctors and nurses are also available with these vans to attend to the patients during the process of transit. What are the perceptions of the respondents on this issue. Table 5.23 shows that in Mahaboob Nagar and Guntur districts, there is a trend towards positive ratings ('Fairly Adequate' plus

‘Moderately Adequate’) as against the negative ones (‘Fairly Inadequate’ plus ‘Very Inadequate’). On the other hand, in the case of Anantapur district, there is a reverse trend. The message that emerges is that a lot more needs to be done to significantly increase the levels of satisfaction of the users.

**Table-4.23: Doctor and Nurses Availability for Mobile Medical Vans are Adequate**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	37(12.6%)	20(6.6%)	32(10.6%)	89(9.9%)
Fairly adequate	119(39.6%)	46(15.4%)	78(25.6%)	243(27%)
Moderately adequate	87(29%)	90(30%)	107(35.6%)	324(34.8%)
Fairly inadequate	38(12.6%)	90(30%)	65(21.4%)	284(31.4%)
Very inadequate	19(6.6%)	54(18%)	18(6%)	91(10.2%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### 5.12.15. Do you have Sufficient Medical Facility in Your Village?

It is a well known fact that majority of our citizens reside in rural areas. However, when we analyse the provision of medical services to these areas, we find that these are in no way commensurate with the number of potential beneficiaries residing here. It is also a fact that our villagers are most vulnerable to ailments like waterborne diseases. A rural PHC is intended to provide at least the basic medical care to the intended beneficiaries. How do the respondents in the three districts feel about this issue. Table 4.24 brings out that, in all these districts, the respondents are rather favourably inclined about the facilities available. However, the numbers of those dissatisfied are also quite significant. The concerned authorities need to address this issue on priority. There is a need for improving facilities planning at the level of primary healthcare.

**Table-5.24: Do you have Sufficient Medical Facility in Your Village**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	27(9%)	28(9.6%)	51(17%)	106(11.8%)
Fairly adequate	113(37.8%)	82(27.3%)	76(25.3%)	271(30.0%)
Moderately adequate	108(36%)	102(34%)	91(30.2%)	301(33.6%)
Fairly inadequate	40(13.4%)	68(22.6%)	61(20.1%)	169(18.8%)
Very inadequate	12(4%)	40(13.2%)	61(20.1%)	53(5.6%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

### 5.12.16. Amenities (Electricity, Running Water, and Toilets).

A medical centre can perform its functions effectively if it is equipped with facilities like assured electricity supply, running water and toilets. Electricity would help to provide lighting, allow fans to run and facilitate the running of sophisticated equipment. Running water would improve the cleanliness of the centre besides adequately meeting the various water needs of the medical staff and the patients. Toilets would help in maintaining sanitation in the centre. We can see from Table 5.25 that in the case of Mahaboob Nagar and Guntur districts, the generally positive ratings ('Fairly Adequate' plus 'Moderately Adequately') outweigh the negative ones ('Fairly Inadequate' plus 'Very Inadequate'). However, in Anantapur district, the story is quite different. A noticeable feature is that respondents have tended to give the least weightage to the extreme ratings – 'Perfectly Adequate' and 'Very Inadequate'. This is true for all the three districts.

**Table-5.25: Amenities (Electricity, Running Water, and Toilets)**

Rating	Name of the Districts			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	25(8.3%)	25(7.6%)	53(17.5%)	103(11.3%)
Fairly adequate	35(11.7%)	25(7.9%)	54(18.4%)	114(12.6%)
Moderately adequate	108(36%)	94(31.8%)	94(31.8%)	296(32.6%)
Fairly inadequate	113(37.9%)	136(45.8%)	84(27.2%)	333(37.0%)
Very inadequate	19(6.2%)	20(6.6%)	15(5%)	56(6%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

### 5.12.17. Quality of Health-care Services Delivery

The effectiveness of any medical centre depends largely on the quality of its service delivery. This is particularly true of rural PHCs since a large number of patients are likely to utilise their services. Table 5.26 makes interesting reading. In Mahaboob Nagar district, the number of negative ratings ('Fairly Inadequate' plus 'Very Inadequate') exceeds that of the positive ones ('Fairly Adequate' plus 'Moderately Adequate'). However, in the other two districts, the respondents are more favourably inclined.

**Table-5.26: Quality of Health-Care Services Delivery**

Rating	Name of the Districts			
	Mahaboob Nagar	Anantapur	Guntur	Total

Perfectly adequate	11(3.4%)	4(1.3%)	12(4%)	86(9.6%)
Fairly adequate	31(10%)	61(20.6%)	108(36%)	296(34.3%)
Moderately adequate	95(31.3%)	123(41%)	96(33%)	314(35.0%)
Fairly inadequate	127(42.9%)	86(28.4%)	38(12.5%)	155(17.4%)
Very inadequate	36(12%)	26(8.4%)	46(18%)	49(5.4%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

### 5.12.18. Satisfaction over Prescriptions

Medicines prescribed form an integral part of any medical setting. The patients need to feel convinced that these medicines would help in the recovery process. Otherwise, they may not feel inclined to consume the medicines. How do the respondents in the three districts rate the satisfaction level on this issue? Table 5.27 brings out that in all these districts the generally positive ratings ('Satisfied' plus 'Somewhat Satisfied') are more than the negative ones ('Dissatisfied' plus 'Very Much Dissatisfied'). An interesting feature emerges when we compare the figures for the extreme ratings – 'Very Much satisfied' and 'Very Much Dissatisfied'. These are respectively in the ratio of 1:2 (Mahaboob Nagar) and 1:2.7 (Anantapur). However in case of Guntur district, the ratio is about 3.6:1. Vigorous efforts are needed to increase the satisfaction levels of the beneficiaries on this account.

**Table-5.27: Satisfaction over Prescriptions**

Rating	Name of the Districts			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very much satisfied	24(8%)	15(5%)	46(15.3%)	85(9.4%)
Satisfied	62(30.2%)	96(32%)	112(37.2%)	213(23.6%)
Some what satisfied	83(27.7%)	96(32%)	94(31.3%)	273(30.3%)
Dissatisfied	83(38.8%)	53(17,8)	35(11.4%)	214(23.6%)
Very much Dissatisfied	48(16%)	40(13.4%)	13(4.3%)	115(12.5%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

### 5.12.19. Sufficient time to Patients

Given the generally shy nature of many rural patients and their relatively inadequate communication skills (also due to illiteracy), they may not always be able to adequately describe their exact medical problem, which could lead to adoption of an incorrect course of treatment. It is, therefore, imperative that the medical staff devote adequate time to the patients and make them feel comfortable before arriving at any

diagnosis. Table 5.28 depicts the ratings on this issue. It is seen that in Mahaboob Nagar and Guntur districts, the generally positive ratings outnumber the negatives ones. However, the situation is quite the opposite in Anantapur district. A disturbing feature in Guntur is that those giving the rating ‘Perfectly Adequate’ is very miniscule (only 0.8 percent of the respondents). The concerned authorities need to impress on the medical staff to take their duties more seriously and not examine patients in a perfunctory manner. There is need for training the medical staff to prepare them to serve the patient with love and devotion.

**Table-5.28: Sufficient Time to Patients**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	29(9.9%)	11(3.8%)	2(0.8%)	52(5.8%)
Fairly adequate	59(19.9%)	41(13.6%)	39(13%)	122(13.6%)
Moderately adequate	106(35.3%)	88(29.4%)	129(43%)	323(35.7%)
Fairly inadequate	71(23.8%)	126(42%)	114(38%)	311(34.5%)
Very inadequate	25(8.3%)	34(11.5%)	26(8.6%)	92(10.4%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### 5.12.20. Adequate Medical Equipment

An effective medical centre is one which has all the essential medical equipment in good working condition. Shortage of equipment can greatly hamper the diagnosis and treatment process. Table 5.29 presents a rather dismal picture with respondents in both Mahaboob Nagar and Anantapur districts expressing generally negative views on the issue of adequacy of medical equipment in the PHCs. Only in the case of Guntur district are the generally negative and positive ratings almost equal. The message that emerges is that a lot more needs to be done to equip the PHCs with at least the bare essential medical equipment.

**Table-5.29: Adequate Medical Equipment**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	21(7%)	11(3.6%)	9(3%)	92(10.4%)
Fairly adequate	13(4.6%)	37(12.6%)	41(13.6%)	169(18.9%)
Moderately adequate	99(33%)	87(29.0%)	104(34.9%)	290(32.4%)
Fairly inadequate	76(25%)	103(34.3%)	113(37.7%)	292(32.8%)

Very inadequate	91(30.3%)	62(20.4%)	33(11%)	57(6.6%)
Total	300 (100%)	300 (100%)	300 (100%)	900(100%)

### 5.12.21. Patient Satisfaction level with Health-care Received and the Outcome of Treatment.

A major determinant in the treatment process is the level of satisfaction of the patients. It is only when he/she feels assured of being in safe hands that the patient will feel inclined to cooperate with the medical staff. An encouraging that emerges from a perusal of Table 5.30 is that in all the three districts, the generally positive ratings are more than the negative ones. However, a startling fact is that none of the respondents in Anantapur district expressed total satisfaction on this parameter. There is, thus, an urgent need to put in vigorous efforts to significantly increase the satisfaction levels of the beneficiaries. There is need to improve patient care management through proper training of para medical staff for upgrading skills.

**Table-5.30: Patient Satisfaction level with Health-care Received and the Outcome of Treatment**

Name of the District				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	4(1.6%)	0(0%)	22(7.4%)	64(7.4%)
Fairly adequate	87(29%)	126(41.9%)	111(37.3%)	324(35.7%)
Moderately adequate	137(46.6%)	65(21.5%)	92(30.3%)	294(32.6%)
Fairly inadequate	34(11.6%)	105(34.4%)	54(18.0%)	193(21.6%)
Very inadequate	38(12.4%)	4(1.3%)	21(7%)	25(2.7%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

### 5.12.22. Effectively Operated Health Centres by the Health-care Officers

A medical centre can be viewed as effective if it is (and perceived to be) run efficiently by those responsible for its administration. Only when the potential beneficiaries are positively inclined towards it will they be motivated to utilise its services. When this is not the case, the patients may (i) go in for treatment by quacks, (ii) approach practitioners, or (iii) leave the ailment untreated and expect God to ‘cure’ them. Each of these courses can be harmful for the health/pockets of the of the patients. Let us see the perceptions of the respondents on the effectiveness of the PHCs and the personnel managing these. Table 5.31 brings out conflicting perceptions on this issue. In

Mahaboob Nagar district, the generally positive ratings outnumber the generally negative ones. However, in Anantapur district, the trend is reversed. In the case of Guntur district both these ratings are almost equal in number. The message that emerges is that a lot needs to be done to phenomenally increase the satisfaction levels of the beneficiaries of the PHCs. It shows up the absence of leadership and participative management in primary healthcare centres.

**Table-5.31: Effectively Operated Health Centres by the Health-care Officers**

Name of the Districts				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	10(3.8%)	69(23%)	9(3%)	48(5.6%)
Fairly adequate	70(26.4%)	49(26.8%)	59(19.7%)	206(22.8%)
Moderately adequate	90(30%)	29(9.4%)	88(29.7%)	227(25.6%)
Fairly inadequate	98(32.6%)	121(40.2%)	114(38.1%)	325(35.8%)
Very inadequate	32(30.6%)	32(10.7%)	30(10%)	94(10.6%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

### 5.12.23. Adequate Respect to Patients

The clientele of a hospital (especially a rural one) may be largely composed of aged, infirm, female, destitute or illiterate persons. That should not mean that they be treated discourteously or in a patronising manner. Major components of the treatment process include: care, understanding, empathy and adequate respect. How do the PHCs in the three districts measure up on this score. Table 5.32 presents a rather heartening picture. In all the three districts, the positive perceptions outnumber the negative ones. However, a disquieting feature is that the number of respondents expressing total satisfaction is quite low. The concerned authorities need to impress on the medical staff to treat the patients with more consideration and dignity. The policy makers should arrange to run courses on “medical humanities” to the medical staff in PHCs.

**Table-5.32: Adequate Respect to Patients**

Name of the District				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	22(7.4%)	25(8.6%)	35(11.6%)	82(8.3%)
Fairly adequate	59(19.7%)	87(29%)	94(31.4%)	240(26.8%)
Moderately adequate	131(43.3%)	84(28.6%)	79(26.6%)	294(32.8%)
Fairly inadequate	67(23.7%)	67(22.7%)	65(21.7%)	227(25.4%)

Very inadequate	21(7%)	37(12.5%)	27(8.8%)	85(8.6%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### 5.12.24. Aarogyasri Insurances Scheme Benefits

Rajiv Aarogyasri is the flagship scheme of the Government of Andhra Pradesh. It aims at providing quality health-care to the poor. In order to facilitate the effective implementation of the scheme, the State Government has set up the Aarogyasri Health-care Trust. The network of Aarogyasri providers includes both public and private hospitals. As of January 2010, there were a total of 342 hospitals in the network of which 98 were public hospitals and 244, private hospitals. The main reason for Aarogyasri Trust deciding to work with private providers was the lack of resources in the public system. The government has been unable to attract the needed specialists to public facilities, while the private sector has rapidly expanded high quality health-care services. Table 5.33 brings out the overall positive perceptions about the working of the Scheme. Another heartening feature is the very low number of totally negative ratings. Since this Scheme is a very prestigious initiative of the State Government, greater efforts are required to make it even more effective so that other States get motivated to replicate it.

**Table-5.33: Aarogyasri Insurances Scheme Benefits**

Rating	Name of the District			Total
	Mahaboob Nagar	Anantapur	Guntur	
Perfectly adequate	52(17.3%)	39(13%)	45(15%)	118(13.6%)
Fairly adequate	90(30%)	91(30.1%)	78(26%)	259(28.8%)
Moderately adequate	93(31%)	95(31.4%)	88(29.9%)	276(30.9%)
Fairly inadequate	45(18.3%)	54(18%)	66(33%)	162(18.6%)
Very inadequate	20(6.4%)	21(7%)	23(7.6%)	82(8.6%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### 5.12.25. Providing Medicines on Time

There are many ailments for which medicines need to be dispensed on time; lest the condition of the patients deteriorates. In a rural setting, the patients may have to depend on the PHCs for the medicines – either because they cannot afford the cost or there are no chemists' shops within easy reach. Quite often, we hear about medicines not being provided on time, either due to these not being in stock or the callous or sadistic nature of the concerned staff. Table 5.34 makes a very disturbing reading in

that an overwhelming number of respondents in all the three districts have negative perceptions on this issue. Such a situation is totally unacceptable and the concerned authorities need to take corrective action on top most priority. The policy makers should develop ‘monitoring and review system’ to check availability and the consumption of medicine at PHCs so that essential medicines are available at right time and in right quantity.

**Table-5.34: Providing Medicines on Time**

Name of the District				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	17(5.6%)	10(3.3%)	39(13%)	94(10.3%)
Fairly adequate	43(12.7%)	23(7.6%)	18(6%)	56(6%)
Moderately adequate	50(16.6%)	69(23%)	41(13.6%)	152(16.6%)
Fairly inadequate	92(30.6%)	121(40.3%)	82(27.6%)	295(32.6%)
Very inadequate	98(32.8%)	77(25.6%)	120(40%)	295(32.6%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### 5.12.26. Availability of All Drugs

Linked with the issue discussed in Para 5.12.25 above is the question of availability of medicines. Hospitals (especially the rural ones) need to monitor the stock position of at least the essential medicines so as to replenish the deficient ones. There is also a need for suitable arrangements with nearby PHCs to offset each others’ shortages. Table 5.35 presents a rather dismal picture in that the majority of respondents in all the three districts have negative perceptions on this issue. The concerned authorities need to examine this issue on priority and reduce the lacunae to the extent possible.

**Table-5.35: Availability of All Drugs**

Name of the District				
Rating	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	53(17.8%)	10(3.6%)	11(3.9%)	86(9.7%)
Fairly adequate	46(22%)	9(3%)	40(13.6%)	295(32.6%)
Moderately adequate	29(9.7%)	131(43.5%)	98(32.8%)	295(32.6%)
Fairly inadequate	81(27%)	80(26.8%)	104(34.3%)	158(17.9%)
Very inadequate	91(30.6%)	70(23.8%)	47(15.6%)	58(6.5%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### 5.12.27. Promoting universal immunisation

‘Prevention is better than cure’ and ‘A stitch in time saves nine’ are some adages that have stood the test of time. These are especially true in the case of health related

issues. The Central and State Governments have from time to time been launching vigorous immunisation campaigns like the ‘Pulse Polio’ one. There are a number of other ailments too to which children (especially infants) are very vulnerable. Time action can help in reducing the number of deaths or disablements due to such diseases, which include TB, MMR (measles, mumps, and rubella) and whooping cough. Many parents may be blissfully unaware of the consequences of these ailments and the preventive measures available. There is need for spreading awareness on issues such as these so that the infants can be properly immunised. There is also the risk of epidemics spreading rapidly in the wake of natural calamities like floods and earthquakes. Mass immunisation measures can greatly help in arresting the spread of epidemics. PHCs can play a major role in spreading mass awareness about the immunisation facilities available for the lay public. Table 5.36 presents a contrasting picture across the three districts. In Guntur and Anantapur districts, a little more than 50 percent of the respondents have a positive perception on this score. In Mahaboob Nagar district, the generally positive and negative ratings are almost equal. Such a state of affairs is totally undesirable since the life and good health of many of our future citizens may be at stake. The PHC staff needs to be exhorted to do much more to promote universal immunisation.

**Table - 5.36: Promoting Universal Immunisation**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	14(4.7)	38(12.7%)	2(0.7%)	150(16.6%)
Good	110(36.7%)	51(17.0%)	103(34.3%)	168(18.7%)
Fair	34(11.3%)	86(28.7%)	62(20.2%)	182(20.3%)
Poor	139(46.3%)	0(0%)	82(27.3%)	346(39.7%)
Very poor	3(1.0%)	4(1.7%)	47(15.7%)	55(5.8%)
Total	300 (100%)	300 (100%)	300 (100%)	900 (100%)

#### **5.12.28. Promoting construction of household toilets**

Defecation in the open (due to the shortage of household toilets) is the bane of many rural areas. Such a practice can be both socially and physically unsafe (due to the risk of insect and reptile bites). PHCs are expected to do much more than be mere dispensers of medicines. They should take the lead in promoting healthy practices like construction of household toilets. Table 5.37 presents a very dismal picture with the

negatively inclined ratings far outweighing the positive ones. A silver lining, however, is the reasonably high number of respondents in Mahaboob Nagar (36.7 percent) who gave the rating ‘Good’ on this parameter. To ensure provision of certain minimum level of sanitation at the household level, a multi pronged and sustained programme is needed. It is necessary to rationalise the present approach in terms of different programmes and strategies. The experience so far suggests that the role of education, leadership, finances and social mobilisation are all important factors in promoting sanitation practices by the households. Therefore, the multi-pronged strategy should include a strong and sustained mass education campaign, backed by efforts to mobilise communities to take it up as a mission, rather than a programme.

**Table -5.37: Promoting construction of household toilets**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	45(15.0%)	7(2.3%)	8(2.7%)	60(6.7%)
Good	110(36.7%)	12(4.0%)	39(13.0%)	62(6.9%)
Fair	11(3.7%)	84(28.0%)	86(28.7%)	280(31.1%)
Poor	35(11.7%)	112(37.3%)	87(29.0%)	234(26.0%)
Very poor	99(33.0%)	85(28.3%)	80(26.7%)	264(26.3%)
Total	300(100%)	300(100.0%)	300(100.0%)	900(100.0%)

#### **5.12.29. Coordination with Panchayats and Self help Groups.**

Panchayati Raj institutions (PRIs) and self help groups (SHGs) have been in existence for many years. During this period, these have gained some degree of acceptability among the rural masses. It would be very advantageous if PHCs ensure a greater degree of coordination with PRIs and SHGs for dissemination of messages regarding healthy life styles. Table 5.38 depicts the perceptions of the respondents on the issue of coordination with panchayats and self help groups. It emerges that the positive ratings are more in number than the negatively inclined ones in all the three districts. However, a slightly disquieting fact is that the negative ratings in all the three districts are still quite noticeable. The message that emerges is that government needs to take proper initiatives to promote better coordination between the PHCs and the panchayats and self help groups, which will strengthen management of rural healthcare.

**Table – 5.38: Coordination with panchayat and self help groups.**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	36(12.0%)	16(5.3%)	17(5.7%)	69(7.7%)
Good	66(22.0%)	46(15.3%)	67(22.3%)	179(19.9%)
Fair	91(30.3%)	102(34.0%)	99(33.0%)	292(32.4%)
Poor	89(29.7%)	114(38.0%)	84(28.0%)	287(31.9%)
Very poor	18(6.0%)	22(7.3%)	33(11.0%)	73(8.1%)
Total	300(100.0%)	300(100.0%)	300(100.0%)	900(100.0%)

### 5.12.30. Coordination with anganwadi workers

Anganwadi workers are today accepted as important links in the social fabric of rural societies. Since they belong to an almost similar milieu and can converse in the local lingo of most villagers, their messages carry greater conviction than those of the city-bred expert experts who may be dismissed as outsiders trying to impress them with high flown language. Yet another advantage that the anganwadi workers have is that since most of them are females, they can easily approach women villagers. It is an established fact that any social development message has a greater chance of success if the willing partnership of women is secured. What is the perception of the respondents on this issue? Table 5.39 reveals that the generally positive perceptions outweigh the negatively inclined ones in all the three districts. A slightly disquieting fact is that even the negative ratings are quite noticeable. An interesting feature is that in Anantapur district none of the respondents have given the rating ‘Very Poor’. The message that is that the potential of anganwadi workers should be properly tapped. Government, on its part, should do its bit to raise the morale of such workers by providing better infrastructure and service benefits to them so that they would be better motivated to effectively disseminate the social development messages to the rural folk.

**Table – 5.39: Coordination with anganwadi workers**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	24(8.0%)	16(5.3%)	18(6.0%)	58(6.4%)
Good	82(27.3%)	36(12.0%)	121(40.3%)	239(26.6%)
Fair	81(27.0%)	158(52.7%)	85(28.3%)	324(36.0%)
Poor	79(26.3%)	90(30.0%)	52(17.3%)	221(24.6%)

Very poor	34(11.3%)	0(0.0%)	22(7.3%)	56(6.2%)
Total	300(100.0%)	300(100.0%)	300(100.0%)	900(100.0%)

### 5.12.31. Monitoring of Water Quality in the Village

Many ailments can be substantially reduced if the water used for drinking, cooking, washing, etc., is of a reasonably good quality. In a rural setting, which may not have the benefit of running water (as in urban areas), those engaged in the task of monitoring the quality of water in rural areas need to look for parameters like Biological Oxygen Demand, quantity/quality of pollutants, dissolved solids, etc., before certifying that the water is fit/unfit for consumption by humans and their livestock. As already mentioned, the role of a PHC goes far beyond that of being a mere health centre. It needs to ensure that the quality of water in the nearby water sources is of a reasonably good quality. How do the respondents in the three districts perceive the efforts towards monitoring the water quality in their respective areas? Table 5.40 brings out that the generally positive ratings outnumber the negative ones in all the three districts. However, the negative perceptions are quite noticeable. Vigorous efforts are, therefore, required to significantly increase the satisfaction levels on this score.

**Table – 5.40: Monitoring Of Quality Water in the Village**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	23(7.7%)	56(18.7%)	7(2.3%)	86(9.6%)
Good	67(22.3%)	86(28.7%)	86(28.7%)	239(26.6%)
Fair	95(31.7%)	74(24.7%)	119(39.7%)	288(32.0%)
Poor	91(30.3%)	71(23.7%)	60(20.0%)	222(24.7%)
Very poor	24(8.0%)	13(4.3%)	28(9.3%)	65(7.2%)
Total	300(100.0%)	300(100.0%)	300(100.0%)	900(100.0%)

### 5.12.32. Providing Primary Medical Care

The major task of a PHC, especially if it is located in a rural area, is to serve as the first ‘port of call’ to look after the health needs of its vast clientele. It is never intended to take on the role of a super-specialty hospital. The PHC should be able to handle

relatively common ailments/conditions and render preliminary care in case the patients are required to be shifted to specialised hospitals. Table 5.41 brings out the perceptions of the respondents on this issue. It is seen that majority of the respondents have given the rating ‘Fair’. An interesting fact that has emerged is that none of the respondents in Anantapur district have chosen the rating ‘Very Poor’. Still, the concerned authorities cannot afford to sit on their laurels. Vigorous efforts are needed to significantly improve the level of satisfaction of the beneficiaries.

**Table – 5.41: Providing Primary Medical Care (fever, iron folic, acid tablet, minor injuries,)**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	41(13.7%)	14(4.7%)	7(2.3%)	62(6.9%)
Good	72(24.0%)	33(11.0%)	50(16.7%)	155(17.2%)
Fair	111(37.0%)	141(47.0%)	130(43.3%)	382(42.4%)
Poor	50(16.7%)	112(37.3%)	82(27.3%)	244(27.1%)
Very poor	26(8.7%)	0(0.0%)	31(10.3%)	57(6.3%)
Total	300(100.0%)	300(100.0%)	300(100.0%)	900(100.0%)

### **5.12.33. Is There Any Improvement the Quality of Delivery of Services by Health-Care Workers.**

Medical centres have been operating in rural areas for a fairly long time. In these years, the expectation levels of the beneficiaries have risen phenomenally – largely due to the increase in awareness as a result of growing literacy and the reach of the media. How do the respondents react to issue of improvement in quality of delivery of services by health-care workers. Table 5.42 brings out a rather disquieting fact in that, across the three districts, there is a greater inclination towards negative ratings than the positive ones. This is even more pronounced in the case of extreme ratings. In Mahaboob Nagar district, ‘Very Poor’ is nearly four times ‘Very Good’. In Anantapur district, it is nearly twice. In Guntur district, it is nearly seven times. The concerned authorities need to sit up and take urgent measures to correct this sorry state of affairs.

**Table – 5.42: Is There Any Improvement the Quality of Delivery of Services by Health-Care Workers.**

<b>Rating</b>	<b>Name of the District</b>			
	<b>Mahaboob Nagar</b>	<b>Anantapur</b>	<b>Guntur</b>	<b>Total</b>
Very good	25(8.3%)	47(15.7%)	14(4.7%)	86(9.6%)
Good	98(32.7%)	83(27.7%)	71(23.7%)	252(28.0%)
Fair	16(6.0%)	1(0.3%)	34(11.3%)	53(5.9%)
Poor	59(19.7%)	81(27.0%)	73(24.3%)	213(23.7%)
Very poor	100(33.3%)	88(29.3%)	106(35.3%)	53(5.9%)
Total	300(100.0%)	300(100.0%)	300(100.0%)	900(100.0%)

## SECTION –B: TEST OF HYPOTHESIS

### Hypothesis (H1): Beneficiaries are Satisfied with Services provided by the Rural Health-care Centres

To test the hypothesis seven components of services have been selected which are relevant for services provided by the rural healthcare services: healthcare promotion awareness through the program, the efforts taken by health servants, the degree of cure of the diseases, the help of doctors and nurses, cleanliness is improved or not, the medical staff efficiency and follow up monitoring of patient.

#### 5.13.1. Test of Hypothesis - Chi-Square Analysis

Chi-square test has been performed to substantiate the research hypotheses (H1 to H3) framed for this study, for which the level of significance is fixed at 5 percent (i.e.,  $\alpha = 0.05$ ). The tests have been carried out using the statistical software tool, SPSS 17. The summary table presents the hypotheses from H1 to H3 with their respective probability values, calculated values and result of the test.

#### 5.13.2. Health-care Promotion Awareness through the Programmes

The 5 x 3 matrix (three district and five point scale) cross-tabulating values relating to beneficiaries' satisfaction on Health-care promotion awareness through the programmes from the three selected districts is presented in Table 4.43 below.

**Table 5.43 - Health-care promotion awareness through the programmes**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	6	6	80	92
Good	39	51	152	242
Fair	114	104	41	259
Poor	107	108	17	232
Very fair	34	31	10	75
Total	300	300	300	900

**Table 5.44 - Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.134a	12	0.0202
Likelihood Ratio	18.497	12	0.023
Linear-by-Linear Association	9.270	1	0.032
Number of Valid Cases	900		

0 cells (.0%) have expected count less than 5. The minimum expected count is 9.00
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Table 5.44 indicates the calculating value of chi square as 28.134 at 5 percent level of significance and 12 (df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic value is 0.202 and proves that the chi-square value is less than the table value, which strengthens the alternative hypothesis (H1) statement and rejects the null hypothesis (H0). Hence it is concluded that the beneficiaries' awareness regarding Health-care promotion is very highly significant in the all three districts (**alternative hypothesis is accepted**).

**5.13.3. The Efforts Taken by Health Servants for Providing Health-care Services to the Beneficiaries.**

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries rating on the efforts taken by health servants for providing health-care services to the beneficiaries is presented in the Table below

**Table 5.45 - The efforts taken by health servants for providing health-care services to the beneficiaries.**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	34	7	53	94
Good	92	44	94	230
Fair	99	105	84	288
Poor	61	107	61	229
Very fair	14	37	8	59
Total	300	300	300	900

**Table 5.46 - Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.759a	12	0.051
Likelihood Ratio	21.184	12	0.042
Linear-by-Linear Association	3.803	1	0.031
N of Valid Cases	900		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.67.			

Table 5.46 indicates the calculating value of chi square as 21.759 at 5 percent level of significance and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic value is 0.051 and disproves that the chi-square value is higher than the table value which weakens the alternative hypothesis (H1) statement and accepts the null hypothesis (H0). Hence, it is concluded that the beneficiaries' perception regarding the efforts taken by health servants for providing health-care services to the beneficiaries is insignificant in the all three districts (**alternative hypothesis is rejected**).

#### **5.13.4. The Cure of the Diseases by the Medicines provided By the Health-care centres to the beneficiaries.**

. The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries' rating on The Cure of the Diseases by the Medicines provided by the Health-care centres to the beneficiaries is presented in the Table below.

**Table 5. 47 - The Cure of the Diseases by the Medicines provided by the Health-care centres to the beneficiaries.**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	18	12	25	55
Good	65	49	106	220
Fair	119	104	89	312
Poor	79	101	62	242
Very fair	19	34	18	71
Total	300	300	300	900

**Table 5.48 - Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.786a	12	.442
Likelihood Ratio	17.840	12	.032
Linear-by-Linear Association	4.522	1	.024
N of Valid Cases	900		
0 cells (.0%) have expected count less than 5. The minimum expected count is 9.33.			

Table 5.48 indicates the calculating value of chi square as 18.786 at 5 percent level of significance and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic value is 0.442 and disproves that the chi-square value is higher than the table value which weakens the alternative hypothesis (H1) statement and accepts the null hypothesis (H0). Hence, it is concluded that the beneficiaries' perception on the Cure of Diseases by the Medicines provided by the Health-care centres to the beneficiaries is the same across the three districts under study (**alternative hypothesis is rejected**).

### 5.13.5. The Role of Doctors and Nurses to Improve the Health Condition of the Patients

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries rating on the help of doctors and nurses to restore to good Condition to the Patients is presented in the Table below.

**Table 5.49 - The Role of Doctors and Nurses to Improve the Health Condition of the Patients**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	23	9	28	60
Good	112	54	94	260
Fair	89	93	96	278
Poor	53	94	56	203
Very fair	23	50	26	99
Total	300	300	300	900

**Table 5.50 - Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.016a	12	0.054
Likelihood Ratio	16.035	12	0.034
Linear-by-Linear Association	1.394	1	0.038
N of Valid Cases	900		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 20.00			

Table 5.50 indicates the calculating value of chi square as 19.016 at 5 percent level of significance and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the value asymptotic value is 0.054 and disproves that the chi-square value is higher than the table value which weaken the alternative hypothesis (H1) statement and accepted the null hypothesis (HO). Hence it is concluded that the beneficiaries perception The Role of Doctors and Nurses in Improving the Health Condition of the Patients is the same in across the three districts (**alternative hypothesis is rejected**).

### 5. 13.6. Cleanliness is Improved in Health-care Centres.

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries rating on Cleanliness Is Improved in Health-care Centres from the three districts is presented in the Table below.

**Table 5.51 - Cleanliness Is Improved in Health-care Centres**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	15	20	26	61
Good	70	44	99	213
Fair	111	107	91	309
Poor	819	103	59	243
Very fair	23	26	25	74
Total	300	300	300	900

**Table 5.52 - Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.622a	12	0.031
Likelihood Ratio	19.234	12	0.000
Linear-by-Linear Association	2.187	1	0.007
N of Valid Cases	900		
0 cells (.0%) have expected count less than 5. The minimum expected count is 20.33			

Table 5.52 indicates the calculating value of chi square as 18.622 at 5 percent level of significance and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the value asymptotic value is 0.031 and proves that the chi-square value is higher than the table value, which strengthen the alternative hypothesis (H1) statement and weaken the null hypothesis (H0). Hence, it is concluded that the beneficiaries' perception regarding improved cleanliness in Health-care Centres is the same across the three selected districts (**alternative hypothesis is accepted**).

### 5. 13.7. The Medical Staff Efficiency.

The 5 x 3 matrix (three district and five point scale) cross- tabulating values relating to beneficiaries rating on the medical staff efficiency from the three districts is presented in the table below

**Table 5. 53 - The Medical Staff Efficiency**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	10	16	26	52
Good	62	40	81	183
Fair	113	97	126	336
Poor	91	102	50	243
Very fair	24	45	17	86
Total	300	300	300	900

**Table 5.54 - Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.467a	12	0.000
Likelihood Ratio	19.773	12	0.000
Linear-by-Linear Association	6.540	1	0.000
N of Valid Cases	900		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.33.			

Table 5.54 indicates the calculating value of chi square as 23.467 at 5 percent level of significance and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the value asymptotic value is 0.000 and proves the chi-square value is higher than the table value which strengthen the alternative hypothesis (H1) statement and weaken the null hypothesis (H0). Hence, it is concluded that the

beneficiaries' perception about the medical staff efficiency is the same in the three districts (**Alternative hypothesis is accepted**).

### 5. 13.8. Follow-up, Monitoring of Patients

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries rating on Follow-up, monitoring of patients from all the three districts is presented in the Table below

**Table 5.55 - Follow-up, monitoring of patients**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	11	5	20	36
Good	56	33	61	150
Fair	105	100	97	302
Poor	96	120	83	299
Very fair	32	42	39	113
Total	300	300	300	900

**Table 5.56 - Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.213a	12	0.061
Likelihood Ratio	18.027	12	0.543
Linear-by-Linear Association	.769	1	0.381
N of Valid Cases	900		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.00.

Table 5.56 indicates calculating value of chi square as 14.213 at 5 percent level of significance and 12(df) degrees of freedom  $\{(5-1)X(4-1) = 4 X 3\}$ , whereas the table value is 21.026

It is concluded that the value asymptotic value is 0.061 and disproves the chi-square value is higher than the table value which weakens the alternative hypothesis statement and accepts the null hypothesis. Hence, it is concluded that the beneficiaries perception Follow-up, monitoring of patients is the same across the three districts (**Alternative hypothesis is rejected**).

**Table 5.57 – Summary of Chi-Square Analysis (H1)**

S.No	Variables	Pearson chi-square			
		Values	Df	Asymp. Sig.(2-sided)	Result
1	Health-care Promotion awareness	28.134a	12	0.001	significant
2	The efforts taken by health servants	21.759a	12	0.051	Insignificant
3	The degree of Cure of the diseases	18.786a	12	0.442	Insignificant
4	The help of doctors and nurses	19.016a	12	0.054	Insignificant
5	Cleanliness is improved	18.622a	12	0.031	significant
6	The medical staff efficiency	23.467a	12	0.000	significant
7	Follow-up, monitoring of patients	14.213a	12	0.061	Insignificant

Table 5.57 shows the complete result of health-care programme awareness, cleanliness in health-care centres, and the medical staff efficiency variables are accepted, remaining four variables are the efforts taken by the health-care servants to the beneficiaries, the degree of cure of the diseases, the role of the doctors and nurses to the beneficiaries, and monitoring of patient are rejected. Hence out of 7 variables majority number four variables are rejected. It says the hypothesis “Beneficiaries are not satisfied with services provided by the rural health-care centres”.

Since the calculated majority of variable values are greater than table value alternative hypothesis is rejected. It shows that services provided by PHCs are not upto the satisfaction level of the respondents.

**Hypothesis-2: Beneficiaries are highly dependent on availability of facilities in rural health-care centres.**

To test the hypothesis ten components of services have been selected which are relevant for services provided by the rural healthcare services: resources of staff services, availability of medicine, adequacy of rooms, availability of beds, resources of laboratory, mobile medical van, availability doctors in mobile van, neat and clean hospital, proper disposal of wastage and availability of staff in mobile van.

**5.13.9. Adequacy of Staff Services**

The 5 x 3 matrix (three district and five point scale) cross-tabulating values relating to beneficiaries rating on resources of staff services in primary health-care center's from the three districts in the Table below.

**Table 5.58 - Resources of staff services**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	39	18	25	82
Fairly adequate	125	53	69	247
Moderate adequate	72	119	114	105
Fairly inadequate	39	90	72	201
Very inadequate	25	20	20	65
Total	300	300	300	900

**Table 5.59 - Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	7.626a	8	0.001
	Likelihood Ratio	8.052	8	0.028
	Linear-by-Linear Association	.321	1	0.071
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	18.003b	8	0.021
	Likelihood Ratio	22.017	8	0.005
	Linear-by-Linear Association	.228	1	0.233
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	9.018c	12	0.001
	Likelihood Ratio	8.450	12	0.039
	Linear-by-Linear Association	.062	1	0.203
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.67.				
b. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 1.38.				
c. 9 cells (45.0%) have expected count less than 5. The minimum expected count is 0.13.				

Table 5.59 indicates the calculating value of chi square from Mahaboob Nagar, Anantapur and Guntur as 7.626, 18.003 and 9.018 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of three districts are 0.001, 0.021 and 0.001 respectively and proves that chi-square value is less than the table value which strengthens the null hypothesis statement and rejects the alternative hypothesis. Hence it is concluded that the beneficiaries' perception regarding adequacy of resources of staff services in primary health-care centres is the same across the three selected districts (**Null hypothesis is accepted**).

#### 5.13.10. Availability of Medicines

The 5 x 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries rating on resources of medicines in primary health-care centres from the three districts is presented in the Table below.

**Table 5.60 - Availability of medicines**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	41	43	26	109
Fairly adequate	72	60	68	200
Moderate adequate	95	103	115	313
Fairly inadequate	63	83	72	218
Very inadequate	29	11	19	59
Total	300	300	300	900

**Table 5.61 - Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	6.012a	8	0.062
	Likelihood Ratio	7.697	8	0.034
	Linear-by-Linear Association	.000	1	0.086
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	7.381b	8	0.052
	Likelihood Ratio	8.488	8	0.073
	Linear-by-Linear Association	.956	1	0.028
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	8.792c	12	0.042
	Likelihood Ratio	9.426	12	0.006

	Linear-by-Linear Association	1.072	1	0.301
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.77.				
b. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 0.84.				
c. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 0.13.				

Table 5.61 indicates the calculating value of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 6.012, 7.038 and 8.792 respectively, at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the value asymptotic values of three districts are 0.062, 0.052 and 0.042 respectively and proves that chi-square value is less than the table value which weakens the null hypothesis statement and strengthens the alternative hypothesis. Hence, it is concluded that the beneficiaries' perception regarding availability of medical services in primary health-care centres is the same in across the three districts (**null hypothesis is rejected**).

#### 5.13.11. Adequacy of Rooms

The 5 X 3 matrix (three district and five point scale) cross-tabulating values relating to beneficiaries rating on adequacy of room in primary health-care centres from the three districts is presented in the Table below.

**Table 5.62 - Adequacy of rooms**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	11	24	30	65
Fairly adequate	69	39	81	189
Moderate adequate	109	123	103	335
Fairly inadequate	80	94	65	239
Very inadequate	31	20	21	72
Total	300	300	300	900

**Table 5.63 - Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	3.677a	8	0.032
	Likelihood Ratio	4.797	8	0.042
	Linear-by-Linear Association	.040	1	0.041
	N of Valid Cases	300		

Anantapur	Pearson Chi-Square	4.350b	8	0.004
	Likelihood Ratio	4.354	8	0.004
	Linear-by-Linear Association	.442	1	0.006
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	11.008c	12	0.023
	Likelihood Ratio	11.710	12	0.025
	Linear-by-Linear Association	3.091	1	0.009
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.29.				
b. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 1.53.				
c. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 0.14.				

Table 5.63 indicates the calculating value of chi square from the three districts (Mahaboob Nagar, Anantapur and Guntur) as 3.677, 4.035 and 11.008 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of three districts are 0.032, 0.004 and 0.023 respectively and proves the chi-square value is less than the table value, which strengthens the null hypothesis statement and rejects the alternative hypothesis. Hence, it is concluded that the beneficiaries' perception regarding adequacy of rooms in primary health-care centres is the same across the three districts (**null hypothesis is accepted**).

#### 5.13.12. Availability of Beds

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries rating on availability beds facility services in primary health-care center's from the three districts is presented in the Table below.

**Table 5.64 - Availability of beds**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	40	25	55	120
Fairly adequate	71	64	92	156
Moderate adequate	101	118	98	219
Fairly inadequate	67	71	48	186
Very inadequate	21	22	7	50
Total	300	300	300	900

**Table 5.65 - Chi-Square Tests**

	<b>District</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Mahaboob Nagar	Pearson Chi-Square	13.083a	12	0.000
	Likelihood Ratio	8.827	12	0.007
	Linear-by-Linear Association	1.063	1	0.003
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	23.031b	12	0.003
	Likelihood Ratio	24.377	12	0.002
	Linear-by-Linear Association	10.009	1	0.002
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	8.408c	12	0.012
	Likelihood Ratio	8.395	12	0.054
	Linear-by-Linear Association	.727	1	0.014
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.56.				
b. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 1.69.				
c. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 0.05.				

Table 5.65 indicates calculating value of chi square from three district (Mahaboob Nagar, Anantapur and Guntur) as 13.083, 23.103 and 8.408 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of three districts are 0.000, 003 and 012 respectively and proves the chi-square value is less than the table value, which strengthens the null hypothesis statement and rejects the alternative hypothesis. Hence, it is concluded that the beneficiaries' perception availability of beds in primary health-care centres is the same in across the three districts (**null hypothesis is accepted**).

### 5.13.13. Availability of Laboratory Services

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries rating on resources of laboratory facility services in primary health-care centres from the three districts is presented in the Table below.

**Table 5.66 - Availability of laboratory services**

<b>Ratings</b>	<b>Name of the District</b>			
	<b>Mahaboob Nagar</b>	<b>Anantapur</b>	<b>Guntur</b>	<b>Total</b>
Perfectly adequate	27	22	55	104
Fairly adequate	84	67	89	240
Moderate adequate	89	109	95	294

Fairly inadequate	65	77	54	196
Very inadequate	35	25	7	67
Total	300	300	300	900

**Table 5.67 - Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	18.456a	12	0.051
	Likelihood Ratio	14.958	12	0.060
	Linear-by-Linear Association	2.076	1	0.150
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	26.849b	12	0.061
	Likelihood Ratio	30.876	12	0.054
	Linear-by-Linear Association	20.346	1	0.000
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	31.963c	12	0.048
	Likelihood Ratio	18.227	12	0.009
	Linear-by-Linear Association	.272	1	0.602
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .72.				
b. 2 cells (13.3%) have expected count less than 5. The minimum expected count is 1.69.				
c. 8 cells (40.0%) have expected count less than 5. The minimum expected count is .05.				

Table 5.67 indicates the calculating values of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 18.456, 26.849 and 31.963 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of three districts are 0.051, 061 and 048 respectively and disproves that the chi-square value is more than the table value, which strengthens the alternative hypothesis statement and rejects the null hypothesis. Hence, it is concluded that the beneficiaries' perception regarding availability of laboratory facility services in primary health-care centres is the same across the three districts (**null hypothesis is rejected**).

#### **5.13.14. Mobile medical Vans are Available when Required**

The 5 X 3 matrix ( three districts and five point scale) cross- tabulating values relating to beneficiaries rating on availability of Mobile medical vans, when required, from the three districts is presented in the Table below.

**Table 5.68 - Mobile medical vans are available when require**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	36	20	38	104
Fairly adequate	95	73	81	249
Moderate adequate	98	110	108	316
Fairly inadequate	55	65	60	180
Very inadequate	16	32	13	61
Total	300	300	300	900

**Table 5.69 - Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	3.175a	12	0.003
	Likelihood Ratio	3.592	12	0.032
	Linear-by-Linear Association	.192	1	0.661
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	3.770b	12	0.038
	Likelihood Ratio	3.729	12	0.051
	Linear-by-Linear Association	.305	1	0.581
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	9.631c	12	0.004
	Likelihood Ratio	9.928	12	0.048
	Linear-by-Linear Association	1.775	1	0.183
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.43.				
b. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 1.53.				
c. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 0.09.				

Table 5.69 indicates calculating value of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 3.175, 3.770 and 9.631 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026.

It is concluded that the asymptotic values of the three districts are 0.003, 0.038 and 0.004 respectively and proves the chi-square value is less than the table value, which strengthens the null hypothesis statement and rejects the alternative hypothesis. Hence, it is concluded that the beneficiaries' perception regarding availability of mobile medical vans when required is the same across the three districts (**null hypothesis is accepted**).

### 5.13.15. Adequate Availability of Doctors for Women

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries' rating on adequate availability of doctors for women when required from the three districts is presented in the Table below.

**Table 5.70: Adequate availability of doctors for women**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	16	30	28	74
Fairly adequate	74	95	76	245
Moderate adequate	124	86	114	324
Fairly inadequate	76	61	66	203
Very inadequate	10	28	16	54
Total	300	300	300	900

**Table 5.71 - Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	9.218a	12	0.324
	Likelihood Ratio	10.548	12	0.229
	Linear-by-Linear Association	0.243	1	0.622
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	6.197b	12	0.625
	Likelihood Ratio	6.772	12	0.561
	Linear-by-Linear Association	.017	1	0.896
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	7.845c	12	0.297
	Likelihood Ratio	8.398	12	0.753
	Linear-by-Linear Association	4.092	1	0.043
	N of Valid Cases	300		
a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is 0.27.				
b. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 2.15.				
c. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 0.11.				

Table 5.71 indicates the calculating value of chi square from the three districts (Mahaboob Nagar, Anantapur and Guntur) as 8.218, 6.197 and 7.845 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of the three districts are 0.324, 625 and 0.297 respectively and disproves the chi-square value is more than the table value which

strengthens the alternative hypothesis statement and rejects the null hypothesis. Hence, it is concluded that the beneficiaries' perception regarding adequate availability of doctors for women in primary health-care centres is the same across the three districts (**null hypothesis is rejected**).

### 5.13.16. Neat and Clean Hospital Premises

The 5 X 3 matrix ( three districts and five point scale) cross- tabulating values relating to beneficiaries' rating on Neat and clean hospital premises in primary health-care centres from the three districts is presented in the Table below.

**Table 5.72 - Neat and clean hospital premises**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	44	65	45	154
Fairly adequate	99	52	93	244
Moderate adequate	88	88	92	268
Fairly inadequate	56	71	54	181
Very inadequate	13	24	16	53
Total	300	300	300	900

**Table 5.73 – Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	10.593a	12	0.031
	Likelihood Ratio	11.158	12	0.193
	Linear-by-Linear Association	.033	1	0.856
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	17.788b	12	0.023
	Likelihood Ratio	18.185	12	0.020
	Linear-by-Linear Association	2.703	1	0.100
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	20.971c	12	0.026
	Likelihood Ratio	23.097	12	0.027
	Linear-by-Linear Association	5.496	1	0.019
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.35.				
b. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 1.84.				
c. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 0.11.				

Table 5.73 indicates calculating value of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 10.593, 17.788 and 20.971 respectively at

5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of three districts are 0.031, 0.023 and 0.026 respectively and proves the chi-square value is less than the table value which strengthens the null hypothesis statement and rejects the alternative hypothesis. Hence, it is concluded that the beneficiaries' perception regarding Neat and clean hospital premises in primary health-care centres is the same across the three districts (**null hypothesis is accepted**)

### 5.13.17. Proper Disposal of Waste

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries' ratings on proper disposal of waste in primary health-care centres from the three districts is presented in the Table below.

**Table 5.74 – Proper disposal of waste**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	58	16	36	110
Fairly adequate	86	75	83	244
Moderate adequate	95	74	99	272
Fairly inadequate	46	91	65	203
Very inadequate	15	44	17	76
Total	300	300	300	900

**Table 5.75 – Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	4.591a	12	0.625
	Likelihood Ratio	6.157	12	0.630
	Linear-by-Linear Association	1.810	1	0.179
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	5.189b	12	0.737
	Likelihood Ratio	6.523	12	0.589
	Linear-by-Linear Association	.369	1	0.544
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	13.453c	12	0.337
	Likelihood Ratio	17.135	12	0.145
	Linear-by-Linear Association	3.845	1	0.050
	N of Valid Cases	300		

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.40.

b. 2 cells (13.3%) have expected count less than 5. The minimum expected count is 1.23.

c. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 0.11.

Table 5.75 indicates the calculating values of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 4.591, 5.189 and 13.453 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of three districts are 0.625, 0.737 and 0.337 respectively and disproves the chi-square value is more than the table value, which strengthens the alternative hypothesis statement and rejected the null hypothesis. Hence, it is concluded that the beneficiaries perception proper disposal of waste services in primary health-care centres is the same across the three districts (**null hypothesis is rejected**)

#### 5.13.18. Adequate Availability of Doctor and Nurses for Mobile Medical Vans

The 5 X 3 matrix ( three districts and five point scale) cross- tabulating values relating to beneficiaries' rating on availability of Doctors and nurses for mobile medical vans in primary health-care centres from the three districts is presented in the Table below.

**Table 5.76 – Adequate Availability of Doctors and nurses for mobile medical vans**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Perfectly adequate	37	20	32	89
Fairly adequate	119	46	78	245
Moderate adequate	87	90	107	284
Fairly inadequate	38	90	65	193
Very inadequate	19	54	18	91
Total	300	300	300	900

**Table 5.77 – Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	6.129a	12	0.033
	Likelihood Ratio	8.388	12	0.097
	Linear-by-Linear Association	0.136	1	0.713
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	5.940b	12	0.036
	Likelihood Ratio	5.951	12	0.353
	Linear-by-Linear Association	0.030	1	0.563

	N of Valid Cases	300		
Guntur	Pearson Chi-Square	9.760c	12	0.003
	Likelihood Ratio	10.879	12	0.539
	Linear-by-Linear Association	0.880	1	0.348
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.51.				
b. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 1.53.				
c. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 0.12.				

Table 5.77 indicates the calculating value of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 6.129, 5.490 and 7.690 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the value asymptotic values of three districts are 0.033, 0.036 and 0.013 respectively and proves the chi-square value is less than the table value which strengthens the null hypothesis statement and rejects the alternative hypothesis. Hence, it is concluded that the beneficiaries' perception regarding adequate availability of doctors and nurses for mobile medical vans in primary health-care centres is the same across the three districts (**null hypothesis is accepted**).

**Table 5.78 – Summary of Chi-Square Analysis (H2)**

S.No	Variables	Pearson chi-square values of three districts			
		Values	Df	Asymp. Sig.(2-sided)	Result
1	Resources of staff services	7.626, 18.003 & 9.018	8,8, &12	0.001, 0.021 & 0.001	significant
2	Availability of medicine	6.012, 7.038 & 8.792	8,8, &12	0.062, 0.052 & 0.042	Insignificant
3	Adequacy of rooms	3.677, 4.035 & 11.008	8,8, &12	0.032, 0.004 & 0.023	Significant
4	Availability of beds	13.083, 23.103 & 8.408	8,8, &12	0.000, 0.003 & 0.012	Significant
5	Resources of laboratory	18.456, 26.849 & 31.963	8,8, &12	0.051, 0.003 & 0.048	Insignificant
6	Mobile medical vans	3.175, 3.770 & 9.631	8,8, &12	0.000, 0.003 & 0.012	significant
7	availability of doctors	8.218, 6.197 & 7.845	8,8, &12	0.324, 0.625 & 0.297	Insignificant
8	Neat and clean hospital	10.593, 17.788 & 20.971	8,8, &12	0.031, 0.023 & 0.026	significant
9	Proper disposal of	4.591, 5.189 &	8,8,	0.625, 0.737	Insignificant

	waste	13.453	&12	&.337	
10	Availability of staff in van	6.129, 5.490 & 7.690	8,8, &12	0.033, 036& 0013	significant

Table 5.78 shows the complete result of resources of staff services, adequacy of rooms, availability of beds, mobile medical vans; neat and clean hospital and availability staff services in the mobile medical van are accepted. The remaining four variables - availability of medicines, adequacy of laboratory services, and proper disposal of waste and availability doctors for women - are rejected. Hence, out of 10 variables, majority number of six variables are accepted. Thus, it can be inferred that the hypothesis “Beneficiaries are highly dependent on availability of facilities in rural health-care centres” is true.

Since the calculated value is less than the tabulated value, the alternative hypothesis ‘there is significant the results indicate that management of healthcare centre require improvement in supply and availability of medicine, capability of laboratory services, prproper management of water, the results also indicate that women doctors need to be employed at primary healthcare centres between availability of facilities in rural health-care centres and satisfaction level of the beneficiaries’ is accepted.

**Table 5.79 – Hypothesis overall result**

S. No	Hypothesis Statement	Result
Hypothesis (H1)	Beneficiaries are satisfied with services provided by the rural health-care centres	Rejected
Hypothesis (H2)	Beneficiaries are highly dependent on availability of facilities in rural health-care centres	Accepted

### 5.13.19. TEST OF HYPOTHESIS – FACTOR ANALYSIS

#### **Hypothesis-3: There are Significant deficiencies in providing timely Delivery Services to the Beneficiaries at Primary Health-care Centre Level**

The first decision the researcher faces is whether or not the data are appropriate for factor analysis. A number of measures are used for this purpose. This span of the output provides.

Table 5.84 shows several very important parts of the output: the Kaiser-Meyer-Olkin Measure of sampling adequacy and Bartlett's test of sphericity. The KMO statistic varies.

**Table 5.80: Kaiser-Meyer-Olkin Measure of Sampling Adequacy**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.900
Bartlett's Test of Sphericity	Approx. Chi-Square	1981.483
	Df	192
	Sig	0.031

Between 0 and 1. A value of 0 indicates that the sum of partial correlations is large relative to the sum of correlations, indicating diffusion in the pattern of correlations (hence, factor analysis is likely to be inappropriate). A value close to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors. Kaiser (1974) recommends accepting values greater than 0.5 as acceptable (values below this should lead you to either collect more data or rethink which variables to include). Furthermore, values between 0.5 and 0.7 are mediocre values, between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are very highly significant (Hutcheson and Sofroniou, 1999, for more details). For these data, the value is 0.682, which falls into the range of being very highly: so, the study should be confident that factor analysis is appropriate for these data.

Bartlett's measure tests the null hypothesis that the original correlation matrix is an identity Matrix. For factor analysis to work the need some relationships between variables and if the R- matrix were an identity matrix, then all correlation coefficients would be zero. Therefore, the study to want this test to be significant, i.e., (have a significance value less than 0.05). A significant test tells us that the R –matrix is not an

identity matrix. Therefore, there are some relationships between the variables the hope to include in the analysis. For these data, Bartlett’s test is significant ( $p < 0.031$ ). There are four major factors deducted from a set of 23 factors which are mentioned in the below table 4.85 with their respective variance.

### Factor Extraction

**Table: 5.81 – Total Variance Explained**

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation sums of squared loading		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.290	31.696	31.696	7.290	31.696	31.696	3.370	16.219	31.696
2	1.729	7.560	39.256	1.739	7.560	39.256	3.340	14.523	39.256
3	1.327	5.725	44.981	1.317	5.725	44.981	2.553	11.099	44.981
4	1.227	5.336	<b>50.317</b>	1.227	5.336	50.317	1.949	8.475	50.317
5	.998	4.295	54.612						
6	.875	3.893	58.504						
7	.880	3.502	62.007						
8	.773	3.404	65.410						
9	.761	3.265	68.670						
10	.707	3.118	71.783						
11	.674	2.972	74.765						
12	.690	2.911	77.676						
13	.622	2.661	80.337						
14	.568	2.512	82.849						
15	.559	2.388	85.236						
16	.513	2.275	87.511						
17	.518	2.210	89.721						
18	.446	1.982	91.704						
19	.434	1.843	93.546						
20	.408	2.773	95.319						
21	.379	1.650	96.969						
22	.364	1.593	98.552						
23	.333	1.448	100.00						

Extraction method: principal component analysis

Table 5.81 show the Eigen values associated with each linear component (factor) before extraction, after extraction and after rotation. Before extraction, SPSS has identified 23 linear components within the data set. The eigen values associated with each factor

represent the variance explained by that particular linear component and table also displays the eigen value in terms of the percent of variance explained (so, factor 1 explains 31.696% of total variance). It should be clear that the first few factors explain the relatively large amounts of variance (especially factor 1), whereas subsequent factors explain only small amounts of variance. SPSS then extracts all factors with Eigen values greater than 1, which leaves us with four factors. The Eigen values associated with these factors are again displayed (and the percent of variance explained) in the columns labelled Extraction Sums of Squared Loadings. The values in this part of the table are the same as the values before extraction, except that the values for the discarded factors are ignored. (Hence, the table is blank after the fourth factor). In the final part of the table (labelled Rotation Sums of Squared Loadings) the Eigen values of the factors after rotation are displayed. Rotation has the effect of optimising the factor structure and one consequence for these data is that the relative importance of the four factors is equalised. Before rotation, factor 1 accounted for considerably more variance than the remaining three (31.696% compared to 7.560, 5.725, and 5.336% respectively). However, after extraction, it accounts for only 16.219% of variance (compared to 14.523, 11.099 and 8.475% respectively).

Table 4.81 shows the communalities before and after extraction. Principal component analysis works on the initial assumption that all variance is common. Therefore, before extraction, the communalities are all 1. The communalities in the column labeled Extraction reflect the common variance in the data structure. So, for example, the study can say that 43.5% of the variance associated with question 1 is common, or shared variance. Another way to look at these communalities is in terms of the proportion of variance explained by the underlying factors. After extraction, some of the factors are discarded and so some information is lost. The amount of variance in each variable that can be explained by the retained factors is represented by the communalities after extraction.

**Table 5.82: Communalities**

	Initial	Extraction
Q1	1.00	0.435
Q2	1.00	0.414
Q3	1.00	0.530
Q4	1.00	0.469
Q5	1.00	0.343
Q6	1.00	0.654
Q7	1.00	0.545
Q8	1.00	0.739
Q9	1.00	0.484
Q10	1.00	0.335
Q11	1.00	0.690
Q12	1.00	0.513
Q13	1.00	0.536
Q14	1.00	0.488
Q15	1.00	0.378
Q16	1.00	0.487
Q17	1.00	0.683
Q18	1.00	0.507
Q19	1.00	0.343
Q20	1.00	0.484
Q21	1.00	0.550
Q22	1.00	0.343
Q23	1.00	0.124

Extraction method: principal component

**Table 5.83: Component matrix**

	Component			
	1	2	3	4
Q18	0.501			
Q7	0.485			
Q16	0.479			
Q13	0.573			
Q12	0.469			
Q21	0.458			
Q14	0.556			
Q11	0.552			-400
Q17	0.343			
Q4	0.634			
Q3	.629			
Q15	0.563			

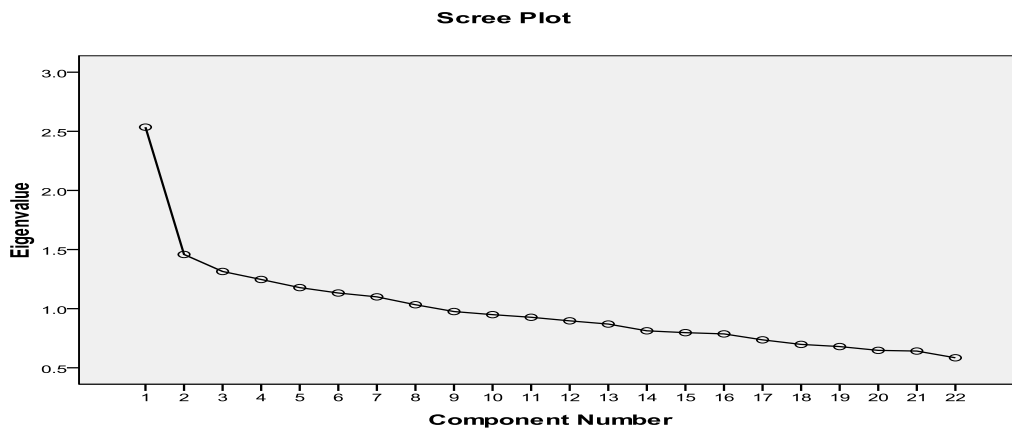
Q1	0.586			
Q5	0.556			
Q8	0.549	0.401		-417
Q10	0.437			
Q20	0.436		-404	
Q19	-427			
Q9		0.627		
Q2		0.548		
Q22		0.465		
Q6	0.562		0.571	
Q23				0.507

Extraction method: principal component analysis.  
4 components extracted

Table 5.83 shows the component matrix before rotation. This matrix contains the loadings of each variable onto each factor. By default SPSS displays all loadings. However, we requested that all loadings less than 0.4 be suppressed in the output and so there are blank spaces for many of the loadings. This matrix is not particularly important for interpretation.

At this stage, table has extracted four factors. Factor analysis is an exploratory tool and so it should be used to guide the researcher to make various decisions. One important decision is the number of factors to extract. By Kaiser's criterion, we should extract four factors and this is what SPSS has done. However, this criterion is accurate when there are less than 30 variables and communalities after extraction are greater than 0.7 or when the sample size exceeds 250 and the average communality is greater than 0.6. The communalities are shown in SPSS Output 4, and none exceed 0.7. The average of the communalities can be found by adding them up and dividing by the number of communalities ( $11.573/23 = 0.503$ ).

The screen plot is shown below with a thunderbolt indicating the point of inflexion on the curve. This curve is difficult to interpret because the curve begins to tail off after four factors, but there is another drop after four factors before a stable plateau is reached. Therefore, the study could probably justify retaining either two or four factors. Given the large sample, it is probably safe to assume Kaiser's criterion. However, the study could rerun the analysis specifying that SPSS extract only two factors and compare the results.



Scree plot helps to determine the optimal number of components, which extracting a component from scree plot. We generally extract the component and the steep slope; the components on the slow slop contribute little to the solution as said above. The last drop occurs between the three and four components. So using the first four components is an easy choice. The studies conclude that the adequate availability of doctors, quality of drugs, adequate medical equipments and adequate rooms are the major preference to all the beneficiaries in all PHCs from three districts. Finally the hypothesis the adequate availability of doctors, quality of drugs, adequate of medical equipments and adequate of rooms is rejected

### **5.13.20. Factor Rotation**

For the first analysis, the study run was using an orthogonal rotation. SPSS Output 6 shows the rotated component matrix which is a matrix of the factor loadings for each variable onto each factor. There are several things to consider about the format of this matrix. First, factor loadings less than 0.4 have not been displayed. If the study didn't select this option, or didn't adjust the criterion value to 0.4, then the output will differ. Second, the variables are listed in the order of size of their factor loadings because of the requirement that the output be sorted by size. If this option was not selected, this output will look different. Finally, for all other parts of the output the study indicated the variable labels but for this matrix the study have allowed the variable labels to be printed to aid interpretation. Compare this matrix with the unrotated solution. Before rotation, most variables loaded highly onto the first factor and the remaining factors didn't really

get a look in. However, after the rotation, the factor structure has clarified things considerably: there are four factors and variables load very highly onto only one factor.

**Table 5.84 Rotated Component Matrix**

	Component			
	1	2	3	4
1. Adequate availability of doctors	0.697			
2. Adequacy of rooms	0.684			
3. Adequate medical equipment	0.647			
4. Quality of drugs	0.638			
5. Recovery/ cure	0.597			
6. Sufficient time to patients	0.550			
7. Overall reception facility	0.459			
8. Good clinical examination		0.667		
9. Follow-up, monitoring of patients		0.661		
10. satisfaction over prescriptions		-0.567		
11. Good diagnosis		0.523		
12. Adequate availability of doctors for women				
13. Neat and clean hospital premises		0.516		
14. Clean appearance of staff		0.514		
15. Proper disposal of waste		0.496		
16. Compassion and support		0.429		
17. Adequate respect to patients			0.633	
18. Availability of all drugs			0.547	
19. Financial feasibility of treatment			0.447	
20. Ease of obtaining drugs				0.648
21. Easy approachability				0.645
22. Amenities*(e.g., electricity, running water, toilets)				0.586
23. Resources of Laboratory services				

Extraction method: principal component analysis.

Rotated method: varimax with Kaiser Normalization

Rotation converged in 9 iterations

### 5.13.21. Interpretation

The rotated component matrix helps to determine what the components represents the rotation of the factors structure has clarified things considerable. There four factor and variables load highly onto these factors. The next step is too looking at the components of question that load onto the some factors to try to identify common themes. In other words. A group of variables is divided into subgroups of variables bases on similar characteristics. New factors now given to the newly dividend groups of variables. The question that loading highly on the factors seem to related to Adequate availability of

doctors, Adequacy of rooms, Adequate medical equipment and Quality of drugs, therefore this factor is labelled as healthcare infrastructure facilities influences factors. The question that load highly on factor two all seem to related to Recovery/ cure, Sufficient time to patients, Overall reception facility, Good clinical examination, Follow-up, monitoring of patients and Good diagnosis. Therefore this factor is labeled as primary healthcare delivery services influences factors. The question that load on factor three all contain component related to Financial feasibility of treatment, Ease of obtaining drugs, Easy approachability and Amenities\*(\*e.g., electricity, running water, toilets). Therefore this factor is labelled as financial and physical access to care influences factor. Finally the question that loads on factor four all component seem to related to compassion and support, adequate respect to patient and availability of all drugs therefore this factor is labelled as PHCs healthcare personal conducted and drug availability influences factor.

This analysis reveal that initial sub scale: infrastructure facilities influences factors, primary healthcare delivery services, financial and physical access to care and PHCs healthcare personal conducted and drug availability. These entire four factors have been mentioned in the form of a scree plot depicted above. It can be seen from that diagram that after the four major variables that curve becomes parallel to the horizontal and the variables on it are negligible contributing to the dependent variable.

Since calculated value is more than the tabulated value alternative hypothesis is rejected. There is no significant deficiencies of providing Delivery Services Improvement on Time to the Beneficiaries at Primary Health-care Centre Level.

**Hypothesis-4: Involvement of the community will improve the overall health-care delivery.**

To test the hypothesis ten components of services have been selected which are relevant for services provided by the rural healthcare services: Promoting universal immunization, Promoting construction of household toilets, Coordination with panchayat and self help groups, Coordination with anganwadi workers, Is looking after maternal care properly, Monitoring of Water quality in the village, Providing Primary medical care (fevers, Iron Folic Acid Tablet, minor injuries, etc) and Is there any improvement in your access of services from health workers.

**5.13.22. Promoting Universal Immunisation**

The 5 X 3 matrix ( three districts and five point scale) cross- tabulating values relating to beneficiaries’ opinion on promoting universal immunisation from the three district is presented in the Table below

**Table 5.85: Promoting universal immunization.**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	2	38	110	150
Good	82	125	139	356
Fair	62	86	34	202
Poor	103	51	14	168
Very poor	51	38	3	92
Total	300	300	300	900

**Table 5.86 – Chi-Square Tests.**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	8.116a	12	0.022
	Likelihood Ratio	10.507	12	0.031
	Linear-by-Linear Association	2.634	1	0.005
	N of Valid Cases	300		
Ananthpur	Pearson Chi-Square	2.769b	12	0.037
	Likelihood Ratio	2.564	12	0.061
	Linear-by-Linear Association	.488	1	0.085
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	5.959c	12	0.018
	Likelihood Ratio	7.350	12	0.034
	Linear-by-Linear Association	.004	1	0.048

	N of Valid Cases	300		
a. 7 cells (46.7%) have expected count less than 5. The minimum expected count is 0.08.				
b. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.91.				
c. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 0.01.				

Table 5.86 indicates the calculating values of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 8.116, 2.769 and 5.959 respectively at 5 percent level of significance and 8, 6 and 12 (df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of the three districts are 0.022, 037 and 018 respectively and proves the chi-square value is less than the table value, which strengthens the alternative hypothesis statement and rejects the null hypothesis. Hence, it is concluded that the beneficiaries' perception on promoting universal immunization in primary health-care centres is the same across the three districts (**alternative hypothesis is accepted**).

### 5.13.22. Promoting Construction of Household Toilets

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries opinion on Promoting construction of household toilets from the three districts is presented in the Table below.

**Table 5.87: Promoting construction of household toilets**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	8	7	45	60
Good	80	85	99	264
Fair	86	84	110	280
Poor	87	112	35	234
Very poor	39	12	11	62
Total	300	300	300	900

**Table 5.88 – Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	12.868a	12	0.016
	Likelihood Ratio	13.756	12	0.088
	Linear-by-Linear Association	.584	1	0.145
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	7.558b	12	0.038
	Likelihood Ratio	8.193	12	0.015
	Linear-by-Linear Association	.360	1	0.248

	N of Valid Cases	300		
Guntur	Pearson Chi-Square	16.009c	12	0.001
	Likelihood Ratio	16.928	12	0.152
	Linear-by-Linear Association	.788	1	0.175
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.29.				
b. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.54.				
c. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 0.05.				

Table 5.88 indicates the calculating values of chi square from the three districts (Mahaboob Nagar, Anantapur and Guntur) as 12.868, 7.558 and 16.009 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of the three districts are 0.016, 0.038 and 0.001 respectively and proves the chi-square value is less than the table value, which strengthens the alternative hypothesis statement and rejects the null hypothesis. Hence, it is concluded that the beneficiaries' perception on Promoting construction of household toilets and primary health-care centres is the same across the three districts (**alternative hypothesis is accepted**).

### 5.12.23. Coordination with Panchayats and Self Help Groups

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries opinion on Coordination with panchayat and self help groups from the three districts is presented in the Table below.

**Table 5.89 – Coordination with panchayats and self help groups**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	36	16	17	69
Good	66	46	67	179
Fair	91	102	99	292
Poor	89	114	84	287
Very poor	18	22	33	73
Total	300	300	300	900

**Table 5.90 – Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	23.570a	12	0.053
	Likelihood Ratio	20.741	12	0.008

	Linear-by-Linear Association	3.056	1	0.080
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	6.569b	12	0.084
	Likelihood Ratio	6.512	12	0.290
	Linear-by-Linear Association	.161	1	0.688
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	15.315c	12	0.055
	Likelihood Ratio	16.470	12	0.171
	Linear-by-Linear Association	2.300	1	0.129
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.48.				
b. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 1.23.				
c. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 0.11.				

Table 5.90 indicates the calculating value of chi square from the three districts (Mahaboob Nagar, Anantapur and Guntur) as 23.570, 6.569 and 15.315 respectively, at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of the three districts are 0.053, 0.084 and 0.055 respectively and disproves the fact that the chi-square value is higher than the table value, which rejects the alternative hypothesis statement and strengthens the null hypothesis. Hence, it is concluded that the beneficiaries' perception on coordination with panchayats and self help groups is the same across the three districts (**alternative hypothesis is rejected**).

#### 5.13.24. Coordination with Anganwadi Workers

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries opinion on Coordination with anganwadi workers from the three is presented in the Table below.

**Table 5.91 – Coordination with anganwadi workers**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	24	16	17	57
Good	82	36	67	185
Fair	81	158	99	338
Poor	79	90	84	263
Very poor	34	8	33	75
Total	300	300	300	900

**Table 5.92: Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	10.926a	12	0.006
	Likelihood Ratio	12.411	12	0.134
	Linear-by-Linear Association	1.744	1	0.187
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	7.627b	12	0.007
	Likelihood Ratio	8.038	12	0.135
	Linear-by-Linear Association	3.264	1	0.071
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	12.036c	12	0.003
	Likelihood Ratio	10.618	12	0.162
	Linear-by-Linear Association	.427	1	0.113
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.64.				
b. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 1.23.				
c. 9 cells (45.0%) have expected count less than 5. The minimum expected count is 0.12.				

Table 5.92 indicates the calculating value of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 10.926, 7.627 and 12.036 respectively, at 5 percent level of significance and 8, 6 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the asymptotic values of three districts are 0.006, 0.007 and 0.003 respectively and proves the chi-square value is less than the table value, which strengthens the alternative hypothesis statement and rejects the null hypothesis. Hence, it is concluded that the beneficiaries' perception on coordination with anganwadi workers in primary health-care centre is the same across the three districts (**alternative hypothesis is accepted**).

#### 5.13.25. Is Maternal Care being attended to properly

The 5 X 3 matrix (three district and five point scale) cross-tabulating values relating to beneficiaries' opinion on the issue of proper maternal care in the three districts is presented in the Table below.

**Table 5.93: Is maternal care being attended to properly**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	29	39	21	89

Good	73	149	62	284
Fair	97	79	111	287
Poor	60	28	83	171
Very poor	41	5	23	68
Total	300	300	300	900

**Table 5.94 – Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	9.406a	12	0.004
	Likelihood Ratio	12.235	12	0.141
	Linear-by-Linear Association	0.225	1	0.235
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	8.410b	12	0.004
	Likelihood Ratio	8.876	12	0.153
	Linear-by-Linear Association	0.851	1	0.156
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	12.765c	12	0.002
	Likelihood Ratio	12.649	12	0.195
	Linear-by-Linear Association	0.045	1	0.231
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .77.				
b. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .38.				
c. 9 cells (45.0%) have expected count less than 5. The minimum expected count is .14.				

The table 5.94 indicates calculating value of chi square from three district (Mahaboob Nagar, Anantapur and Guntur) as 9.406, 8.410 and 12.765 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026.

It is concluded that the asymptotic values of the three districts are 0.004, 0.004 and 0.002 and proves the chi-square value is less than the table value, which strengthens the alternative hypothesis statement and rejects the null hypothesis. Hence, it is concluded that the beneficiaries' perception regarding maternal care in primary health-care centres is the same across the three districts (**alternative hypothesis is accepted**).

#### **5.13.26. Monitoring of Water Quality in the Villages**

The 5 X 3 matrix (three districts and five point scale) cross- tabulating values relating to beneficiaries' opinion on monitoring of water quality in the villages from the three districts is presented in the Table below.

**Table 5.95: Monitoring of water quality in the village**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	23	56	7	86
Good	67	86	86	238
Fair	95	74	119	289
Poor	91	71	60	222
Very poor	24	13	28	65
Total	300	300	300	900

**Table 5.96: Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	4.472a	12	0.812
	Likelihood Ratio	5.637	12	0.688
	Linear-by-Linear Association	0.014	1	0.907
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	7.883b	12	0.889
	Likelihood Ratio	8.223	12	0.412
	Linear-by-Linear Association	0.103	1	0.748
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	6.495c	12	0.412
	Likelihood Ratio	6.966	12	0.860
	Linear-by-Linear Association	1.552	1	0.213
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.61.				
b. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 1.00.				
c. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 0.05.				

Table 5.96 indicates the calculating value of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 4.472, 7.883 and 6.495 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the value asymptotic values of three districts are 0.812, 0.889 and 0.412 respectively and disproves that the chi-square value is more than the table value, which rejects the alternative hypothesis statement and accepts the null hypothesis. Hence, it is concluded that the beneficiaries' perception regarding monitoring of water quality in the villages is the same across the three districts (**alternative hypothesis is rejected**).

**5.13.27. Providing Primary Medical Care (fever, iron folic, acid tablet, minor injuries, etc)**

The 5 X 3 matrix ( three district and five point scale) cross- tabulating values relating to beneficiaries opinion on Proving primary medical care (fever, iron folic, acid tablet, minor injuries, etc) from the three districts is presented in the table given below.

**Table 5.97: Proving primary medical care (fever, iron folic, acid tablet, minor injuries, etc)**

Rating	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	41	14	7	62
Good	72	33	50	155
Fair	111	141	130	382
Poor	50	101	82	232
Very poor	26	11	31	68
Total	300	300	300	900

**Table 5.98 – Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Maehboobnagar	Pearson Chi-Square	11.006a	12	0.001
	Likelihood Ratio	11.644	12	0.168
	Linear-by-Linear Association	.613	1	0.134
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	8.127b	12	0.029
	Likelihood Ratio	8.546	12	0.101
	Linear-by-Linear Association	.419	1	0.117
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	11.837c	12	0.009
	Likelihood Ratio	13.106	12	0.101
	Linear-by-Linear Association	.354	1	0.252
	N of Valid Cases	300		
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.69.				
b. 3 cells (25.0%) have expected count less than 5. The minimum expected count is 1.07.				
c. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 0.05.				

The table 5.98 indicates calculating value of chi square from three district (Mahaboob Nagar, Anantapur and Guntur) as 11.006, 8.127 and 11.837 respectively at 5 percent level of significance and 8, 6 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$ , whereas the table value is 21.026

It is concluded that the value asymptotic values of three districts are 0.001, 029 and 009 and proves the chi-square value is less than the table value which strengthen the

alternative hypothesis statement and rejects the null hypothesis. Hence, it is concluded that the beneficiaries' perception on Providing primary medical care (fever, iron folic, acid tablet, minor injuries, etc) and Income Level of Beneficiary in primary health-care centres is the same in across the three districts (**alternative hypothesis is accepted**).

**5.13.28. Is there any Improvement in your Access of Services from Health-Care Workers.**

The 5 X 3 matrix (three district and five point scale) cross- tabulating values relating to beneficiaries opinion on Is there any improvement in your access of services from health-care workers from the three districts is presented in the table below

**Table 5.99 – Is there any improvement in your access of services from health-care workers**

	Name of the District			
	Mahaboob Nagar	Anantapur	Guntur	Total
Very good	25	47	14	85
Good	98	83	72	253
Fair	100	81	107	289
Poor	59	81	73	214
Very poor	18	8	34	60
Total	300	300	300	900

**Table 5.100 – Chi-Square Tests**

	District	Value	df	Asymp. Sig. (2-sided)
Mahaboob Nagar	Pearson Chi-Square	8.935a	12	0.048
	Likelihood Ratio	10.573	12	0.127
	Linear-by-Linear Association	.081	1	0.276
	N of Valid Cases	300		
Anantapur	Pearson Chi-Square	21.489b	12	0.006
	Likelihood Ratio	15.075	12	0.058
	Linear-by-Linear Association	7.793	1	0.005
	N of Valid Cases	300		
Guntur	Pearson Chi-Square	5.258c	12	0.029
	Likelihood Ratio	5.953	12	0.218
	Linear-by-Linear Association	.031	1	0.260
	N of Valid Cases	300		

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 0.48.

b. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 0.08.

c. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 0.09.

Table 5.100 indicates the calculating values of chi square from three districts (Mahaboob Nagar, Anantapur and Guntur) as 8.935, 21.489 and 5.258 respectively at 5 percent level of significance and 8, 8 and 12(df) degrees of freedom  $\{(5-1) \times (4-1) = 4 \times 3\}$  whereas the table value is 21.026

It is concluded that the value asymptotic values of three districts are 0.048, 0.006 and 0.029 respectively and proves that the chi-square value is less than the table value which strengthen the alternative hypothesis statement and rejects the null hypothesis. Hence, it is concluded that the beneficiaries perception on is there any improvement in your access of services from health-care workers in primary health-care centres is the same across the three districts (**alternative hypothesis is accepted**).

**Table 5.101 – Summary of Chi-Square Analysis (H3)**

S.No	Variables	Pearson chi-square values of three districts			
		Values	Df	Asymp. Sig.	Result
1	Promote_univer_immunization?	8.116, 2.769 and 5.959	8,6, &12	0.022, 0.037 and 0.18	Significant
2	Promote_construct_household	12.868, 7.558 & 16.009	8,8, &12	0.016, 0.038 and 0.01	Significant
3	Coordination_panchayat	23.570, 6.569 &15.315	8,8, &12	0.053, 0.084 and 0.055	Significant
4	Coordination _anganwadi	10.926, 7.627 & 12.036	8,6, &12	0.006, 0.007 and 0.003	Significant
5	Is looking after maternal	9.406, 8.410 &12.765	8,8, &12	0.009, 0.004 and 0.006	Significant
6	Monitoring of Water quality	4.472, 7.883 &6.495	8,8, &12	0.812, 0.889 &0.412	Insignificant
7	Providing Primary medical care	11.006, 8.127 &11.837	8,6, &12	0.001, 0.029 and 0.009	Significant
8	Impro_access_health-care_service	8.935, 21.489 & 5.258	8,8, &12	0.048, 0.006 and 0.009	Significant

Table 5.101 Summarises the analysis on: (i) promoting universal immunization, (ii) promoting construction household toilets, (iii) coordination with panchayat raj institution, (iv) coordination with anganwadi workers, (v) is looking after maternal care properly to mother, (iv) providing primary medical care to beneficiaries from primary health-care worker team and (vii) Improvement in access to health-care services. Of these variables, only the hypothesis at monitoring of water quality this variable is

rejected, the other seven are accepted. The conclusion drawn is: “Involvement of the community participation will help improve the overall health-care delivery”.

Since the calculated value is less than the tabulated value, the alternative hypothesis is accepted. There is significant improvement between Involvement of community participation and improvement in quality of the overall health-care delivery.

**Table 5.102 - Hypothesis Overall Results**

S. No	Hypothesis Statement	Result
Hypothesis (H3)	There is a significant time gap in providing delivery services to the beneficiaries at the primary health-care centre level	Rejected
Hypothesis (H4)	Involvement of community participation will improve the overall health-care delivery	Accepted

## SECTION –C: RANK ANALYSIS

### 5.13.29 Rank Analysis of Primary Health-Care Practices

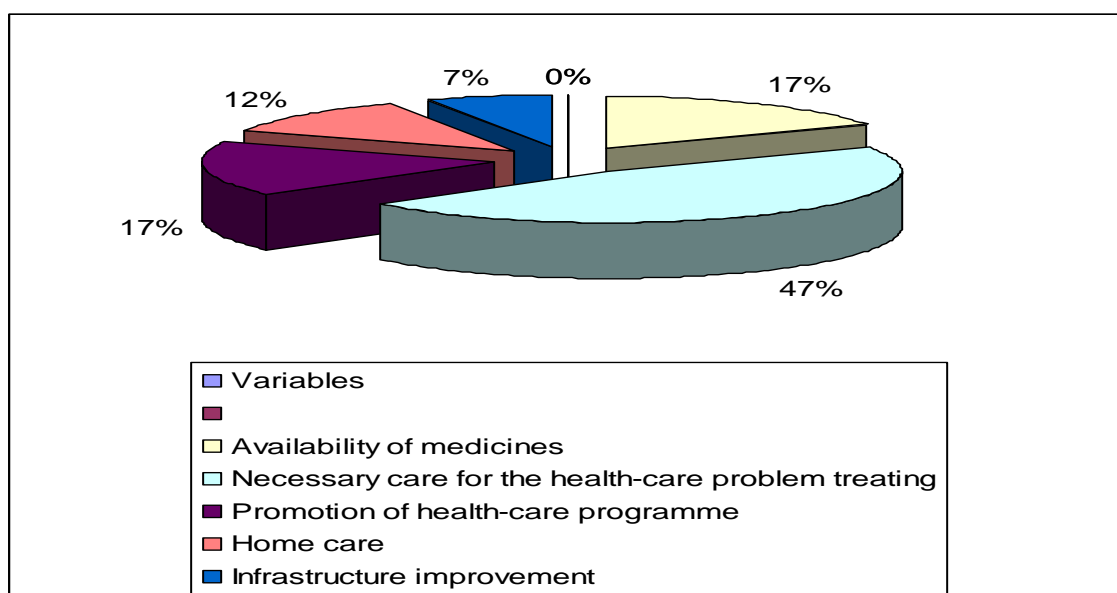
Primary health-care (PHC) addresses the main health problems in the community, providing promotive, preventive, curative, and rehabilitative services accordingly. The Alma-Ata declaration has outlined the eight essential components of PHC and provision of essential medicines is one among them. World Health Organization (WHO) introduced the concept of essential medicines. “Essential medicines are those that satisfy the priority health-care needs of the population. They are selected with due regard to public health relevance, evidence on efficacy and safety, and comparative cost-effectiveness. Essential medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price the individual and the community can afford. Hence the present study was conducted in Andhra Pradesh to identify which variables are most important

**Table54.103 Rank Analysis of Primary Health-Care Practices**

Variables	Ranking				
	1	2	3	4	5
Availability of medicines	156(17.5%)	411(45.6%)	236(26.2%)	66(7.35%)	31(3.6%)
Necessary care for treating the health-care problem	417(47.6%)	211(23.4%)	178(19.7%)	51(5.6%)	43(4.8%)

Promotion of health-care programme	154(17.2%)	155(17.6%)	239(27.8%)	259(29.2%)	93(10.3%)
Home care	106(11.8%)	69(7.6%)	148(16.7%)	202(22.5%)	375(41.6%)
Infrastructure improvement	61(6.7%)	54(6%)	101(11.6%)	321(35.4%)	363(40.4%)
Total	900(100%)	900(100%)	900(100%)	900(100%)	900(100%)

Table 5.103 indicates that the Necessary care for the health-care problem treating was found to be the highest showing a rank of 46.3%. The Availability of medicine was found to be 45.6 percent. And the “Home care through primary health-care services in rural area was valued at 41.6. The Infrastructure improvement in primary health-care centres was found to be 40.4. The Promotion of health-care programme showed a lower important showing a rank of 17.6 percent.



### 5.13.30. The Rank Analysis of PHCs Practices.

It can be seen that of the variables having Ranking I, the largest number (47.6%) is for ‘Necessary care for treating the health-care problems’. The second largest number (17.5%) is for ‘Availability of Medicines. The lowest number in this category (6.7%) is for ‘Infrastructure Improvement’. As regards the variables accorded Ranking 2, ‘Availability of Medicines’ has the largest number (45.6%), followed by ‘Necessary care for treating the health-care problems’ (23.4%). The lowest number in this category (6%)

is for ‘Infrastructure Improvement’. However, in the case of Ranking 3, the maximum numbers (27.8%) have been garnered by ‘Promotion of Health-care Programmes’ closely followed by ‘Availability of Medicines (26.2%)’. The lowest figures in this category are for ‘Infrastructure Improvement’ (11.6%).

Significant changes are seen from the earlier figures, when we analysed Rankings 4 and 5. These can be summarised as under:

**Table 5-104**

<b>Ranking</b>	<b>Variable with Highest Numbers</b>	<b>Variable with Next Highest Numbers</b>	<b>Variable with Least Numbers</b>
4	Infrastructure improvement (35.4)	Promotion of health-care programmes (29.2%)	Necessary care for treating the health-care problems (5.6%)
5	Home Care (41.6%)	Infrastructure improvement (40.4%)	Availability of Medicines (3.6%)

### **5.13.31. Field Observations on the Functioning of the PHCs**

In this section of the chapter, the study would discuss the perceptions and observations gathered during the course of the research sessions. It will also seek to discuss the theory and practice of primary health-care delivery. Furthermore, questions answered by doctors regarding other aspects of primary health-care, as opposed to the specific questions regarding the primary health-care delivery point of view, will also be included and discussed. Describing the present state of the primary health-care network in Andhra Pradesh, one would not have any qualms in saying that it is poorly functioning and there is a lot of room for improvement. It is an accepted fact 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). However, there are various reasons for the present state of the primary health network. In this segment, the study would like to illustrate certain reasons for the primary health network in rural A.P not being up to the mark.

The basic physical infrastructure to facilitate the PHC network is still lacking in many parts of India according to (WHO1). However, during my field trip what I could distinctly notice when I visited 45 PHCs in the all three districts, all of them had a

building to administer health-care from and barring very few centres all of them had facilities provided for the doctor and other staff to reside in. However the condition of these buildings varied. On one hand, some buildings were very old and in a dilapidated state requiring essential repair and maintenance; while on the other, some of the PHCs were built recently (probably within the past 5 years) and were in relatively good condition with basic amenities such as drinking water and toilet facilities. In spite of most of the PHCs having provisions for housing quarters for the doctors and other staff, only a handful of doctors actually resided in the houses provided for them. Most doctors preferred to commute either from the town or from neighbouring villages where they had their own homes. Although the provision of residence for staff and doctors was meant to solve the problem of villagers accessing health-care during off duty hours, the consequences of the fact that most doctors do not stay in their official residence meant that during off duty hours the villagers are most likely not to have any access to health-care. Certain doctors had particular valid reasons for not staying in the house provided. For instance, women doctors felt insecure if they were to stay overnight in these houses. Some doctors cited the poor state of the building and lack of basic facilities like drinking water, toilets and assured supply of electricity which deterred them from staying in the village. Most doctors voiced their concerns and were strongly opposed to staying in the villages, as there was no financial incentive to do so. Staying at the village will result in patients accessing health-care during their off duty hours, they mentioned that they did not have any objections to treating patients but said that it is unfair that the government never pays for the extra hours of service put in. Plainly put in the words of some doctors: “the government expects us to work on a 24 hour basis but pays us on an 8 hour scale. How can they expect us to stay in the village and work during our free time?” Doctors also mentioned the lack of basic amenities like schools or higher educational facilities and other vital resources that are readily available in the cities, e.g., variety of shops, government offices and entertainment and amusement venues. Therefore, they consider it is pointless to bring up young children or family in the villages, as it appears to them that it leads to backwardness rather than progressing in life. Hence most of the doctors found it would be convenient to commute from other places and opted not to stay in the village.

The fact that the doctors are commuting between the town and PHCs or from neighbouring villages, leads to serious repercussions on the functioning of the PHCs. The acuteness of these repercussions depends mainly on those who commute from towns and to a lesser extent on those who commute from the neighbouring villages, because of the perception of the time taken to travel to the PHCs. Of course, other factors like poor accessibility because of deteriorating conditions of roads, public transport and factors such as remoteness and inaccessibility are also counted. Perhaps only on rare occasions does one find that doctors arrive on time or work for their stipulated 8-hour shift (rare occasions are for example when there is an immunisation drive or external observers with authority have come to scrutinise their work). The researcher found that doctors arrived at the PHC to start work from about 11-11:30am. They tended to work until early afternoon 2-3 pm and left the PHC. They tended to work only for half the day hence making the chances to access health-care for the villagers bleaker. A few doctors depended on public transport to commute, which are reliable, i.e., they ply daily, but are not known for keeping good time. “The government should improve the frequency of busses. If one misses the bus, one has to wait another 5 or 6 hours to get the next bus. Hence it can deter them from going to the PHC on that day”. This further reduces the chances for the people to access health-care, as there is no stable timetable when the doctor will be available in the PHC.

## FINDINGS, SUGGESTIONS AND CONCLUSION

After analyzing the data, the major findings of the study are presented in this chapter. Suggestions have been made wherever appropriate for consideration and for further action by the policy makers. For effective management of rural healthcare in Andhra Pradesh. The findings have been presented on the current status of management of rural healthcare in AP

### Findings and Suggestions

- 1. Distribution of respondent of different age groups.** Out of total 900 respondents, 37 percent are in the age group of 20 to 30 years, 36 percent, in the age group of 30 to 40 years, 17 percent in the 40-50 years age bracket and only 2.5 percent in the above 50 years age group. This makes significant reading and poses the question 'Despite the higher probability of old age-related ailments, how is it that the proportion of elderly persons availing of the benefits of PHCs is so low in all the districts? Is it that they accept their medical condition as 'incurable' and hence feel visiting PHCs as a waste of time or they are unable to find escorts to take them to the PHCs? The concerned medical authorities need to address this issue.
- 2.** The table 5.2 highlights that out of the total 900 respondents, female beneficiaries constitute 61.3 percent. It is also found that, male beneficiaries did not respond in the same manner as their female counterparts. This issue is found to be applicable for all the three districts under study.
- 3.** Occupation of the respondents is an important demographic factor that influences the analysis of PHCs. The sample beneficiaries were divided in five different occupations. They included: farmer, labour, student, housewife and others. The majority of the beneficiaries are farmers (68.6 per cent), followed by labour group and students.
- 4. Literacy Rate of the Respondents.** They have been divided into the following groups: illiterate, up to 10 classes, inter and degree. It can be seen that 77 percent

are illiterate, and 10 percent have studied up to tenth class. A realistic assumption can be made here that the respondents who visit these primary health-care centres belong to the relatively low literacy level groups.

- 5. Income Groups of the Respondents.** They have been divided into four income groups: (i) less than Rs. 20000, (ii) Rs 20000 to 40000, (iii) Rs 40000 to 60000, and (iv) greater than Rs 60000 per annum. Financial strength of an individual is an important driving force for the persons accessing the health-care centres. It can be seen that majority (57.6) percent of the beneficiaries belong to the 'between Rs 20000 to Rs 40000' annual income range. This is true for all the districts. Another significant fact that emerges is that for the income level above Rs 60,000, except for Guntur district, none of the beneficiaries availed of this benefit. Even in Guntur, the number of respondents belonging to this income level who are visiting PHCs is very less.
- 6. Awareness about availability of doctors in PHCs.** Majority of the respondents in the three districts replied in the affirmative. However, the apparent high rate of awareness cannot be interpreted as a high rate of people accessing primary health-care. On analysing the data, it can be seen that there is a strong association (statistically significant) with the number of times the respondents actually access PHCs and it appears to correspond with the awareness about availability of doctors.
- 7. Awareness about the availability of doctors in rural PHCs.** The responses are measured on the nominal scale. In all the three districts, the majority of the respondents are aware of the availability of doctors in primary health-care centres. The question arises how many of them make optimum use of the PHCs?
- 8. Respondents who visited the primary health-care centres in a year.** The responses are measured on the scale of: (i) 0 to 5, (ii) 5 to 10, (iii) 10 to 15, and (iv) above 15. Out of the total 900 respondents, 50.4 percent visited the primary health-care centre 5 to 10 times in a year, and 42 percent, 10 to 15 times. The number of those making more than 15 visits in a year is insignificant in all the districts.
- 9. Does the health-care centre meet all the health of the beneficiaries?** The responses have been divided into four groups: (i) Not at all, (ii) Reasonably, (iii) Very Much, and (iv) Fully. It can be seen from Table 4.8 that the responses 'Reasonably' and

‘Very Much’ in all the districts taken together are far more than the other two ones. However, a very large number of respondents in Mahaboob Nagar (43.5%) expressed the opinion ‘Not at all’. This should be a cause of some concern since the success of a PHC can be gauged by the degree of satisfaction of the beneficiaries.

**10. Does the health-care team visit the villages?** It can be seen that there is a wide degree of variance in responses to this question. In Mahaboob Nagar (67.3 percent) and Guntur (53.9%), the affirmative responses were more. However, 81.3 percent of the respondents in Anantapur replied in the negative. This suggests large scale absenteeism by the medical staff in Anantapur District. Urgent Steps need to be taken to remedy the situation. There may be instances where emergency cases are left untreated due to the ‘irresponsibility’ of the medical staff. Such a situation is totally unacceptable.

**11. Health-care promotion awareness through the programmes.** Awareness about health-care promotion through the programmes plays a very significant role in the success of a primary health-care centre. The study has selected the five point Likart scale range from ‘Very Good’ to ‘Very Poor’. Table 5.10 brings out the large proportion of negative responses (especially in Mahaboob Nagar, where it is to the tune of 56%). It shows that government needs to take proper initiatives to promote the health-care awareness programmes among the beneficiaries.

**12. The efforts taken by health servants for providing health-care services to the beneficiaries.** This is a major resource to the primary health-care centres in Andhra Pradesh. It can be seen that the respondents in all the three districts have tended to avoid the extreme responses ‘Very Good’ and ‘Very Poor’. There appears to be a positive perception (total of ‘Good’ and ‘Fair’) on this issue in Mahaboob Nagar (59%) and Guntur 63%). However, in Anantapur, the negative perception (‘Poor’ plus ‘Very Poor’ - total 48%) is very significant. This brings out that a lot still needs to be done to promote greater awareness about the health-care programmes.

**13. The role of doctors and nurses in improving the health of the patients.** Doctors and nurses play a very significance role in primary health-care centres. The study has selected five point Likart scale range from ‘Very Good’ to ‘Very Poor’. Table 5.12 analyses the responses regarding the role of doctors and nurses in improving the

health of the patients. It can be seen that in all the three districts, the proportion of those conveying a positive response ('good' plus 'Fair') is generally high. However, in Anantapur District, the totals of positive responses ('Good' plus 'Fair') are almost equal to the negative ones ('Poor' plus 'Very Poor'). Sincere efforts are needed to change the negative perceptions about the medical staff.

**14. Cleanliness in health-care centres.** A clean environment can help check the spread of diseases like malaria, plague, cholera and jaundice. Health workers are expected to impress on the target audience the need to keep the surrounding neat and tidy. However, if their own environs are shabby, their messages will not carry much conviction. Just as in the case of most other replies, this aspect too brings out that the proportion of extreme ratings – 'Very Good' and 'Very Poor' is much less compared to the other ones. Table 5.13 brings out that the overall positive ratings – 'Good' plus 'Fair' are generally more than the negative ones – 'Poor' plus 'Very Poor'. However, in the case of Anantapur District, these two ratings are almost equal. The concerned authorities need to impress on the medical staff to pay greater attention to the cleanliness aspect.

**15. Efficiency of the medical staff.** The Confidence in the efficiency of the medical staff is very essential for the success of a medical centre. If the patients feel that those taking care of their health needs are not very competent, they (the patients) may not feel very motivated to follow the advice given. Alternatively, they may opt for availing of medical services from other sources. Table 5.14 brings out the perceptions of the respondents regarding the efficiency of the health-care staff. It can be seen that the overall positive ratings ('Good' plus 'Fair') outweigh the negative ones ('Poor' plus 'Very Poor'). However, it is pertinent to bring out here that the figures are almost equal in the case of Anantapur District. The message that emerges is that there should be greater focus on improving the level of confidence of the intended beneficiaries so that health-care centres can perform their functions more effectively.

**16. Follow-up monitoring of patients.** The follow-up and monitoring the process of patients is an important component of the treatment process. If these are not adequate, there is every possibility of a relapse. It can be seen that the sum of the positive responses ('Very Good', 'Good' and 'Fair') is more than the sum of the

negative ones (“poor” and “Very Poor”) in Mahaboob Nagar and Guntur districts. However, in Anantapur district, the negative ratings are more in number. It is also pertinent to mention here that the number of ratings “Very Poor” is much more than the “Very Good” ratings in all the three districts. This lacuna need to be addressed on priority.

**17. Adequacy of staff services.** A PHC can perform its functions adequately only when it has sufficient staff services available. Many of the health issues may need to be tackled on the spot itself and referring serious cases to higher and more specialised medical centres may result in loss of time which may at times turn out to be fatal. Table 5.16 brings out that only in Guntur district did a large number of respondents find these services to be ‘Perfectly Adequate’. Majority of the respondents in Mahaboob Nagar (41.6%) and Anantapur (39.6%) gave the rating ‘Moderately Adequate’. Vigorous efforts need to be undertaken by the medical authorities to ensure that the staff services are reasonably adequate. Otherwise, the very purpose of establishing a PHC may be defeated. There is a improving need for human resources management function at the PHC level.

**18. Availability of Medicines.** It needs to be emphasised here that proper intake of the necessary medicines is very much an integral part of the treatment process. In a rural setting, the patient may not be able to afford the cost of medicines. Also, unlike urban areas, there may not be any medical shop nearby to procure medicines not available in the PHC. Hence, for a PHC to be able to perform its responsibilities effectively, it should be adequately stocked with medicines to deal with both routine and emergency cases. Table 5.17 clearly brings out that in all the three districts, very few respondents gave the rating ‘Perfectly Adequate’ or ‘Very Inadequate’. Most of the responses in all the three districts ranged between ‘Fairly Adequate’ and ‘Fairly Inadequate’. Steps need to be taken to improve the stock positive of medicines in the PHCs so that the beneficiaries are assured of better medical care. There is need for improving supply and store management function at PHC level.

**19. Availability of rooms.** In any medical setting, there are generally two types of patients – in-patients (who are required to stay in the hospital itself since the treatment process is such) and out-patients (who can be attended to on the spot itself

and need not stay back for further monitoring of their health condition). Also, in-patients may need 24 hrs monitoring. Adequacy of rooms would enable handling of late night emergencies. In Mahaboob Nagar and Anantapur, the total of negative ratings ('Fairly Inadequate' plus 'Fairly Inadequate'- 62% and 72% respectively ) is more than that of positive ones ('Fairly Adequate' plus 'Moderate Adequate'). However, in Guntur District, the sum of the two positive ratings is about 62%). It is suggested the number of rooms in PHCs (especially in districts like Mahaboob Nagar and Anantapur) be increased

**20. Availability of beds.** It is not always enough to have a number of rooms in any hospital. Even more important is whether sufficient numbers of beds are available for the patients. Off and on one comes across instances of even terminally ill patients being forced to sleep on the floor on shabby mattresses in over-crowded corridors. One can well imagine the quality of treatment they would be receiving. Beds need to be neat and arranged in reasonably well-ventilated rooms. It is seen that the majority of respondents in all the districts have generally avoided the extreme ratings – 'Perfectly Adequate' and 'Very Inadequate'. A significant fact that emerges is that the totals of the positive ratings ('Perfectly Adequate' and 'Fairly Adequate') are more than those of the negative ones ('Fairly Inadequate' and 'Very Inadequate') in all the three districts. It only remains to be seen how many of the respondents have actually 'utilised' this facility and have merely filled in the responses just as a matter of routine!

**21. Availability of laboratory services.** Proper treatment for many ailments can commence only after the reports (blood, ECG, urine, X ray, etc) are scanned. No wonder, laboratory services are integral parts of good hospitals. In the absence of these, the reports have to be procured from outside sources – often at exorbitant costs. In a rural setting, clinical laboratories may not be available in the vicinity. It is, therefore, imperative that rural PHCs are equipped with at least the basic laboratory services. Table 5.20 depicts the ratings on this issue. It can be seen that, in all the three districts, the positive responses ('Fairly Adequate' plus 'Moderately Adequate') are more than the negative ones ('Fairly Inadequate plus 'Very

Inadequate’). Efforts should, nevertheless, be made to significantly enhance the satisfaction levels of the beneficiaries on this score.

**22. Availability of mobile medical vans when required.** Mobile medical vans are very essential for the success of any hospital. These greatly enhance the mobility of the medical personnel – especially for their visits to remote areas and for bringing seriously ill patients to the hospital. Table 5.21 below presents the ratings on this aspect. It can be seen that the satisfaction levels are more on the positive side in all the three districts. However, a lot more can be done to further improve the situation.

**23. Adequate availability of doctors for women.** There are a number of ailments which are specific only to women. Hospitals, therefore, strive to have sufficient number of lady doctors with whom the female patients can feel more comfortable. Given the fabric of our rural society with its great insistence on privacy, female patients may feel hesitant to discuss their unique ailments with male doctors. Table 5.22 brings out the ratings on this score. It can be seen that in all the districts, the generally negative ratings are more than the generally positive ones. The lesson that emerges is that there is a pressing need to make available more doctors (preferably female) to attend to the specific needs of female patients of the PHCs.

**24. Availability of doctors and nurses with medical vans.** A medical van is much more than drivers and attendants to ferry the patients to and from the hospital. It is equally important that doctors and nurses are also available with these vans to attend to the patients during the process of transit. What are the perceptions of the respondents on this issue. Table 5.23 shows that in Mahaboob Nagar and Guntur districts, there is a trend towards positive ratings (‘Fairly Adequate’ plus ‘Moderately Adequate’) as against the negative ones (‘Fairly Inadequate’ plus ‘Very Inadequate’). On the other hand, in the case of Anantapur district, there is a reverse trend. The message that emerges is that a lot more needs to be done to significantly increase the levels of satisfaction of the users.

**25. Adequacy of Medical facilities in the villages.** It is a well known fact that majority of our citizens reside in rural areas. However, when we analyses the provision of medical services to these areas, we find that these are in no way commensurate with the number of potential beneficiaries residing here. It is also

a fact that our villagers are most vulnerable to ailments like waterborne diseases. A rural PHC is intended to provide at least the basic medical care to the intended beneficiaries. How do the respondents in the three districts feel about this issue? Table 5.24 brings out that, in all these districts, the respondents are rather favourably inclined about the facilities available. However, the numbers of those dissatisfied are also quite significant. The concerned authorities need to address this issue on priority. There is a need for improving facilities planning at the level of primary healthcare.

**26. Availability of amenities like electricity, running water and toilets.** A medical centre can perform its functions effectively if it is equipped with facilities like assured electricity supply, running water and toilets. Electricity would help to provide lighting, allow fans to run and facilitate the running of sophisticated equipment. Running water would improve the cleanliness of the centre besides adequately meeting the various water needs of the medical staff and the patients. Toilets would help in maintaining sanitation in the centre. We can see from Table 5.25 that in the case of Mahaboob Nagar and Guntur districts, the generally positive ratings ('Fairly Adequate' plus 'Moderately Adequately') outweigh the negative ones ('Fairly Inadequate' plus 'Very Inadequate'). However, in Anantapur district, the story is quite different. A noticeable feature is that respondents have tended to give the least weightage to the extreme ratings – 'Perfectly Adequate' and 'Very Inadequate'. This is true for all the three districts.

**27. Quality of health-care services delivery.** The effectiveness of any medical centre depends largely on the quality of its service delivery. This is particularly true of rural PHCs since a large number of patients are likely to utilise their services. Table 5.26 makes interesting reading. In Mahaboob Nagar district, the number of negative ratings ('Fairly Inadequate' plus 'Very Inadequate') exceeds that of the positive ones ('Fairly Adequate' plus 'Moderately Adequate'). However, in the other two districts, the respondents are more favourably inclined.

**28. Satisfaction regarding prescriptions.** The Medicines prescribed form an integral part of any medical setting. The patients need to feel convinced that these medicines would help in the recovery process. Otherwise, they may not feel inclined

to consume the medicines. How do the respondents in the three districts rate the satisfaction level on this issue. Table 5.28 brings out that in all these districts the generally positive ratings ('Satisfied' plus 'Somewhat Satisfied') are more than the negative ones ('Dissatisfied' plus 'Very Much Dissatisfied'). An interesting feature emerges when we compare the figures for the extreme ratings – 'Very Much satisfied' and 'Very Much Dissatisfied'. These are respectively in the ratio of 1:2 (Mahaboob Nagar) and 1:2.7 (Anantapur). However in the case of Guntur district, the ratio is about 3.6:1. Vigorous efforts are needed to increase the satisfaction levels of the beneficiaries on this account.

**29. Is sufficient time devoted to the patients?** Given the generally shy nature of many rural patients and their relatively inadequate communication skills (also due to illiteracy), they may not always be able to adequately describe their exact medical problem, which could lead to adoption of an incorrect course of treatment. It is, therefore, imperative that the medical staff devote adequate time to the patients and make them feel comfortable before arriving at any diagnosis. Table 5.28 depicts the ratings on this issue. It is seen that in Mahaboob Nagar and Guntur districts, the generally positive ratings outnumber the negatives ones. However, the situation is quite the opposite in Anantapur district. A disturbing feature in Guntur is that those giving the rating 'Perfectly Adequate' is very miniscule (only 0.8 percent of the respondents). The concerned authorities need to impress on the medical staff to take their duties more seriously and not examine patients in a perfunctory manner. There is need for training the medical staff to prepare them to serve the patient with love and devotion.

**30. Adequacy of medical equipment.** An effective medical centre is one which has all the essential medical equipment in good working condition. Shortage of equipment can greatly hamper the diagnosis and treatment process. Table 5.29 presents a rather dismal picture with respondents in both Mahaboob Nagar and Anantapur districts expressing generally negative views on the issue of adequacy of medical equipment in the PHCs. Only in the case of Guntur district are the generally negative and positive ratings almost equal. The message that emerges is that a lot more needs to be done to equip the PHCs with at least the bare essential medical equipment.

**31. Satisfaction regarding health-care received and the outcome of the treatment.** A

major determinant in the treatment process is the level of satisfaction of the patients. It is only when he/she feels assured of being in safe hands that the patient will feel inclined to cooperate with the medical staff. An encouraging fact that emerges from a perusal of Table 5.30 is that in all the three districts, the generally positive ratings are more than the negative ones. However, a startling fact is that none of the respondents in Anantapur district expressed total satisfaction on this parameter. There is, thus, an urgent need to put in vigorous efforts to significantly increase the satisfaction levels of the beneficiaries. There is need to improve patient care management through proper training of para medical for upgrading skills.

**32. Are Medical centres being effectively run by the health-care staff?** A medical

centre can be viewed as effective if it is (and perceived to be) run efficiently by those responsible for its administration. Only when the potential beneficiaries are positively inclined towards it, will they be motivated to utilise its services. When this is not the case, the patients may (i) go in for treatment by quacks, (ii) approach practitioners, or (iii) leave the ailment untreated and expect God to 'cure' them. Each of these courses can be harmful for the health/pockets of the patients. Let us see the perceptions of the respondents on the effectiveness of the PHCs and the personnel managing these. Table 5.31 brings out conflicting perceptions on this issue. In Mahaboob Nagar district, the generally positive ratings outnumber the generally negative ones. However, in Anantapur district, the trend is reversed. In the case of Guntur district both these ratings are almost equal in number. The message that emerges is that a lot needs to be done to phenomenally increase the satisfaction levels of the beneficiaries of the PHCs. It shows up absence of leadership and participative management in primary healthcare centres

**33. Adequate Respect to patients.** The clientele of a hospital (especially a rural one)

may be largely composed of aged, infirm, female, destitute or illiterate persons. That should not mean that they be treated discourteously or in a patronising manner. Major components of the treatment process include: care, understanding, empathy and adequate respect. How do the PHCs in the three districts measure up on this score? Table 5.32 presents a rather heartening picture. In all the three districts, the

positive perceptions outnumber the negative ones. However, a disquieting feature is that the number of respondents expressing total satisfaction is quite low. The concerned authorities need to impress on the medical staff to treat the patients with more consideration and dignity. The policy makers should arrange to run courses on “medical humanities” to the medical staff in PHCs.

**34. Perceptions on Rajiv Arogyasri Benefits.** Rajiv Arogyasri is the flagship scheme of the Government of Andhra Pradesh. It aims at providing quality health-care to the poor. In order to facilitate the effective implementation of the scheme, the State Government has set up the Arogyasri Health-care Trust. The network of Arogyasri providers includes both public and private hospitals. As of January 2010, there were a total of 342 hospitals in the network of which 98 were public hospitals and 244, private hospitals. The main reason for Arogyasri Trust deciding to work with private providers was the lack of resources in the public system. The government has been unable to attract the needed specialists to public facilities, while the private sector has rapidly expanded high quality health-care services. Table 5.33 brings out the overall positive perceptions about the working of the Scheme. Another heartening feature is the very low number of totally negative ratings. Since this Scheme is a very prestigious initiative of the State Government, greater efforts are required to make it even more effective so that other States get motivated to replicate it.

**35. Providing Medicines on time.** There are many ailments for which medicines need to be dispensed on time; lest the condition of the patients deteriorates. In a rural setting, the patients may perforce have to depend on the PHCs for the medicines – either because they cannot afford the cost or there are no chemists’ shops within easy reach. Quite often, we hear about medicines not being provided on time, either due to these not being in stock or the callous or sadistic nature of the concerned staff. Table 5.34 makes a very disturbing reading in that an overwhelming number of respondents in all the three districts have negative perceptions on this issue. Such a situation is totally unacceptable and the concerned authorities need to take corrective action on top most priority. The policy makers should develop ‘monitoring and

review system' to check availability and the consumption of medicine at PHCs so that essential medicines are available at right time and in right quantity.

**36. Availability of all drugs.** Hospitals (especially the rural ones) need to monitor the stock position of at least the essential medicines so as to replenish the deficient ones. There is also a need for suitable arrangements with nearby PHCs to offset each others' shortages. Table 5.35 presents a rather dismal picture in that the majority of respondents in all the three districts have negative perceptions on this issue. The concerned authorities need to examine this issue on priority and reduce the lacunae to the extent possible.

**37. Promoting universal immunisation.** 'Prevention is better than cure' and 'A stitch in time saves nine' are some adages that have stood the test of time. These are especially true in the case of health related issues. The Central and State Governments have from time to time been launching vigorous immunisation campaigns like the 'Pulse Polio' one. There are a number of other ailments too to which children (especially infants) are very vulnerable. Timely action can help in reducing the number of deaths or disablements due to such diseases, which include TB, MMR (measles, mumps, and rubella) and whooping cough. Many parents may be blissfully unaware of the consequences of these ailments and the preventive measures available.

**38.** There is need for spreading awareness on issues such as these so that the infants can be properly immunised. There is also the risk of epidemics spreading rapidly in the wake of natural calamities like floods and earthquakes. Mass immunisation measures can greatly help in arresting the spread of epidemics. PHCs can play a major role in spreading mass awareness about the immunisation facilities available for the lay public. Table 5.36 presents a contrasting picture across the three districts. In Guntur and Anantapur districts, a little more than 50 percent of the respondents have a positive perception on this score. In Mahaboob Nagar district, the generally positive and negative ratings are almost equal. Such a state of affairs is totally unacceptable since the life and good health of many of our future citizens may be at stake. The PHC staff need to be exhorted to do much more to promote universal immunisation.

- 39. Promoting construction of household toilets.** Defecation in the open (due to the shortage of household toilets) is the bane of many rural areas. Such a practice can be both socially and physically unsafe (due to the risk of insect and reptile bites). PHCs are expected to do much more than be mere dispensers of medicines. They should take the lead in promoting healthy practices like construction of household toilets. Table 5.38 presents a very dismal picture with the negatively inclined ratings far outweighing the positive ones. A silver lining, however, is the reasonably high number of respondents in Mahaboob Nagar (36.7 percent) who gave the rating ‘Good’ on this parameter. To ensure provision of certain minimum level of sanitation at the household level, a multi pronged and sustained programme is needed. It is necessary to rationalise the present approach in terms of different programmes and strategies. The experience so far suggests that the role of education, leadership, finances and social mobilisation are all important factors in promoting sanitation practices by the households. Therefore, the multi-pronged strategy should include a strong and sustained mass education campaign, backed by efforts to mobilise communities to take it up as a mission, rather than a programme.
- 40. Coordination with panchayats and SHGs.** Panchayati Raj institutions (PRIs) and self help groups (SHGs) have been in existence for many years. During this period, these have gained some degree of acceptability among the rural masses. It would be very advantageous if PHCs ensure a greater degree of coordination with PRIs and SHGs for dissemination of messages regarding healthy life styles. Table 5.38 depicts the perceptions of the respondents on the issue of coordination with panchayats and self help groups. It emerges that the positive ratings are more in number than the negatively inclined ones in all the three districts. However, a slightly disquieting fact is that the negative ratings in all the three districts are still quite noticeable. The message that emerges is that government needs to take proper initiatives to promote better coordination between the PHCs and the panchayats and self help groups, which will strengthen management of rural healthcare.
- 41. Coordination with anganwadi workers.** Anganwadi workers are today accepted as important links in the social fabric of rural societies. Since they belong to an almost similar milieu and can converse in the local lingo of most villagers, their messages

carry greater conviction than those of the city-bred expert experts who may be dismissed as outsiders trying to impress them with high flown language. Yet another advantage that the anganwadi workers have is that since most of them are females, they can easily approach women villagers. It is an established fact that any social development message has a greater chance of success if the willing partnership of women is secured. What is the perception of the respondents on this issue? Table 5.39 reveals that the generally positive perceptions outweigh the negatively inclined ones in all the three districts. A slightly disquieting fact is that even the negative ratings are quite noticeable. An interesting feature is that in Anantapur district none of the respondents have given the rating 'Very Poor'. The message that is that the potential of anganwadi workers should be properly tapped. Government, on its part, should do its bit to raise the morale of such workers by providing better infrastructure and service benefits to them so that they would be better motivated to effectively disseminate the social development messages to the rural folk. .

**42. Monitoring of water quality in the villages.** Many ailments can be substantially reduced if the water used for drinking, cooking, washing, etc., is of a reasonably good quality. In a rural setting, which may not have the benefit of running water (as in urban areas), those engaged in the task of monitoring the quality of water in rural areas need to look for parameters like Biological Oxygen Demand, quantity/quality of pollutants, dissolved solids, etc., before certifying that the water is fit/unfit for consumption by humans and their livestock. As already mentioned, the role of a PHC goes far beyond that of being a mere health centre. It needs to ensure that the quality of water in the nearby water sources is of a reasonably good quality. How do the respondents in the three districts perceive the efforts towards monitoring the water quality in their respective areas? Table 5.40 brings out that the generally positive ratings outnumber the negative ones in all the three districts. However, the negative perceptions are quite noticeable. Vigorous efforts are, therefore, required to significantly increase the satisfaction levels on this score.

**43. Providing Primary medical care.** The major task of a PHC, especially if it is located in a rural area, is to serve as the first 'port of call' to look after the health needs of its vast clientele. It is never intended to take on the role of a super-specialty

hospital. The PHC should be able to handle relatively common ailments/conditions and render preliminary care in case the patients are required to be shifted to specialised hospitals. Table 5.41 brings out the perceptions of the respondents on this issue. It is seen that majority of the respondents have given the rating 'Fair'. An interesting fact that has emerged is that none of the respondents in Anantapur district have chosen the rating 'Very Poor'. Still, the concerned authorities cannot afford to sit on their laurels. Vigorous efforts are needed to significantly improve the level of satisfaction of the beneficiaries.

**44. Is there any improvement in the quality of delivery of health-care services?**

Medical centres have been operating in rural areas for a fairly long time. In these years, the expectation levels of the beneficiaries have risen phenomenally – largely due to the increase in awareness as a result of growing literacy and the reach of the media. How do the respondents react to issue of improvement in quality of delivery of services by health-care workers? Table 5.42 brings out a rather disquieting fact in that, across the three districts, there is a greater inclination towards negative ratings than the positive ones. This is even more pronounced in the case of extreme ratings. In Mahaboob Nagar district, 'Very Poor' is nearly four times 'Very Good'. In Anantapur district, it is nearly twice. In Guntur district, it is nearly seven times. The concerned authorities need to sit up and take urgent measures to correct this sorry state of affairs.

**45.** To test the hypothesis seven components of services have been selected which are relevant for services provided by the rural healthcare services: healthcare promotion awareness through the program, the efforts taken by health servants, the degree of cure of the diseases, the help of doctors and nurses, cleanliness is improved or not, the medical staff efficiency and follow up monitoring of patient. The table 5.57 indicate the complete result of health-care programme awareness, cleanliness in health-care centres, and the medical staff efficiency variables are accepted, remaining four variables are the efforts taken by the health-care servants to the beneficiaries, the degree of cure of the diseases, the role of the doctors and nurses to the beneficiaries, and monitoring of patient are rejected. Hence out of 7 variables majority number four variables are rejected. It says the hypothesis "Beneficiaries are not satisfied with

services provided by the rural health-care centres”. Since the calculated majority of variable values are greater than table value alternative hypothesis is rejected. It shows that services provided by PHCs are not upto the satisfaction level of the respondents.

- 46.** The Table 5.78 shows the complete result of resources of staff services, adequacy of rooms, availability of beds, mobile medical vans; neat and clean hospital and availability staff services in the mobile medical van are accepted. The remaining four variables - availability of medicines, adequacy of laboratory services, and proper disposal of waste and availability doctors for women - are rejected. Hence, out of 10 variables, majority number of six variables are accepted. Thus, it can be inferred that the hypothesis “Beneficiaries are highly dependent on availability of facilities in rural health-care centres” is true. Since the calculated value is less than the tabulated value, the alternative hypothesis ‘there is significant the results indicate that management of healthcare centre require improvement in supply and availability of medicine, capability of laboratory services, prproper management of waste, the results also indicate that women doctors need to be employed at primary healthcare centres between availability of facilities in rural health-care centres and satisfaction level of the beneficiaries’ is accepted.
- 47.** The analysis reveal that initial sub scale: infrastructure facilities influences factors, primary healthcare delivery services, financial and physical access to care and PHCs healthcare personal conducted and drug availability. These entire four factors have been mentioned in the form of a scree plot depicted in page no 228. It can be seen from that diagram that after the four major variables that curve becomes parallel to the horizontal and the variables on it are negligible contributing to the dependent variable. Since calculated value is more than the tabulated value alternative hypothesis is rejected. There is no significant deficiencies of providing Delivery Services Improvement on Time to the Beneficiaries at Primary Health-care Centre Level.
- 48.** Table 5.101 Summarises the analysis on: (i) promoting universal immunization, (ii) promoting construction household toilets, (iii) coordination with panchayat rajainstitution, (iv) coordination with anganwadi workers, (v) is looking after

maternal care properly to mother, (iv) providing primary medical care to beneficiaries from primary health-care worker team and (vii) Improvement in access to health-care services. Of these variables, only the hypothesis at monitoring of water quality this variable is rejected, the other seven are accepted. The conclusion drawn is: “Involvement of the community participation will help improve the overall health-care delivery”. Since the calculated value is less than the tabulated value, the alternative hypothesis is accepted. There is significant improvement between Involvement of community participation and improvement in quality of the overall health-care delivery.

49. The increased public health spending should finance infrastructure improvements in the rural sub-centres, primary and community health centres and the district hospitals. Additionally, a much higher level of spending is needed for higher salaries to be paid to doctors working in remote and inaccessible rural areas, essential drugs and supplies, vaccines, medical equipments, laboratories, and the like. In terms of human resources in the health centres, state governments need to appoint more auxiliary nurse midwives, trained birth attendants, technicians, pharmacists, doctors, and specialists. In the lagging states, governments need to provide cell phones to doctors and ANMs in rural PHCs. These measures will help increase the utilisation of the public health centres and consequently bring down the rather high out-of-pocket expenses of their rural residents.

## **6.2. Conclusions**

Primary health-care is a vital aspect in rural health-care delivery system. Therefore, the study analysed various factors that contribute to the performance of primary health-care centres. It can be concluded that reliability in a PHC’s delivery, providing infrastructure facilities, involvement of and coordination with the community are influencing the performance of primary health-care services. The study also attempted to identify the factors influencing rural health-care delivery services and concluded that lack of effective delivery services in primary health-care on various aspects of health-care in rural areas of Andhra Pradesh. Majority of the respondents have pointed out that those deficiencies in vital resources and poor coordination in administering the levels of staff required are

having an adverse effect on the primary health-care services. Insignificant impact on the rural health-care delivery services. Several hypotheses have been tested using Chi-square, factor Analysis and, at the final stage, correlation coefficient analysis test. The majority of analysis variables results are found to be insignificant.

What was most astonishing was the finding that the overall quality of health-care services is perceived to be higher in primary health centres than in community health centres. Inadequate availability of doctors and medical equipments, poor clinical examination, and poor quality of drugs were the important drawbacks reported at community health centres. This appears shocking as community health centres form the uppermost tier of the primary health-care system in the country and therefore medical specialists comprising surgeons, physicians, gynecologists, and pediatricians supported by twenty-one paramedical and other staff are supposed to be in charge of each community health centre, whereas just one medical officer, supported by fourteen paramedical and other staff is in charge of the primary health centres. However, the current study seems to corroborate the findings of other researches (Choudhury et al., 2006; Bhandari and Dutta, 2007) on the current scenario of rural healthcare centres. According to Bhandari and Dutta (2007), nearly 50 per cent of the sanctioned posts of specialists at community health centres were vacant in 2005 and the absenteeism rate among the primary health providers in India was the highest (40%) among the surveyed countries (Chaudhury et al., 2006). The fact that the patients opined that the financial feasibility was low in community health centres, in comparison to primary health centres, need further exploration. As these centres are government-owned, only a nominal amount is charged for the various medical facilities. This finding contradicts the government's objective of making health facilities available at a very low cost to the common man. The inadequate availability of doctors for women was also reported at primary health centres. It may be pertinent to note that there is no provision for gynecologists at these centres.

ASHA doing outstanding work in terms of Janani Suraksha Yojana, sanitation and other responsibilities. However, in terms of promoting community-based health insurance, ASHA is yet to go a long way. Participation in community financing schemes requires resources, i.e., time and money, which the most disadvantaged group in societies often does not possess. Donors and policy makers should hence be aware that it might be

very difficult, even impossible, to reach the poorest sections of the population when promoting participation in these kind of local organisations. In order to both promote these initiatives and lower the barriers to participation, well-targeted subsidies and a linkage to social funds is a possible solution. As one major objective of social funds is to finance investments benefiting the poor and, since in most parts it is the public sector, which administers social funds, such a support would also strengthen the linkage to more formalised health care systems.

This suggests that, further research is needed, how these schemes (community insurance, healthcare insurance and Rajiv Aarogyasri) can be scaled up and replicated as well as how to link them to social risk management instruments, e.g., social funds to broaden the risk pool and increasing coverage rates. Future research should also address the question of how subsidies for the poorest in a community can be designed in order to preserve the incentives for a viable management of the schemes and to achieve optimal targeting. In addition, more research is needed on other promising measures to fight social exclusion in access to social protection in low-income environments. Finally, the study can say that there is an immense need for massive publicity to spread greater awareness among the people regarding the need for financing health-care in the context of high out-of-pocket expenses on health. If we can successfully use insurance in covering our health hazards, we might make headway in successfully tackling this formidable challenge to the society.

### **6.3. Direction for Future Research**

The current study demonstrates that the instrument employed was reliable and possessed the power to discern differences in the opinion of people on the basis of demographic factors and point out the quality and delivery differences in different health-care centres. The selection of the respondents on the basis of convenience may have limited the precision of the study, but the findings urge the government and policy makers to consider the perceptions of patients as well in order to bring about improvements in the delivery of services and subsequently increase their utilisation levels. Immediate steps need to be undertaken to ensure availability of doctors, medical equipments, and good

quality of drugs. The study was however, limited to certain areas of Andhra Pradesh (Mahaboob Nagar, Anantpur and Guntur districts). Therefore, it is suggested that similar studies be carried out in other rural and urban regions of the country and include the private health-care service providers as well. Further, researches could be conducted on: Primary health-care infrastructure development and health-care financial management. There is a pressing need for a research infrastructure which will provide information on access to primary medical care, and the kind of services medical and allied health professionals who can be accessed by that the hitherto deprived sections of society.

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## Appendix - I

### A Study on Management of Rural Healthcare in Andhra Pradesh

Name:	Age :	Sex:
Address :	Occupation :	
No of people in house:	Education:	
Income level :	Ration card:	
Date of interview		

Preliminary information (Please mark in appropriate box)

1. Are you aware of the availability of doctors in rural health centre? ( )  
1. Yes 2. No
2. How many times you visited the health centre for treatment in last year? ( )  
1) Never 2) <5 3) >5<10 4) >10<15 5) Regularly
3. Does the rural healthcare system meet all your health needs? ( )  
1)25% 2) 50% 3) 75% 4) 100%
4. Are the Health workers teams visiting your village? ( )  
1) Yes 2) No
5. The rural healthcare services development is mainly dependent on the improving delivery of rural healthcare facilities through NRHM and healthcare centres.

A. Please indicate performance rating of services offered by the rural healthcare centers

Rating	1	2	3	4	5
Level	Very good	Good	Fair	poor	Very poor

	<b>Healthcare Services Performance in rural center</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	healthcare Promotion awareness through the programs					
2	The efforts taken by health servants for providing preventive medicines for the diseases					
3	The degree of Cure of the diseases to the medicine provided by the health servants					
4	The help of doctors and nurses to restore to good condition to the patient (Rehabilitate)					

5	Cleanliness is improved in healthcare centers					
6	The medical staff efficiency					
7	Follow-up, monitoring of patients					
8	On the whole how do you rate the medical facilities available to you					

**B.** Do the rural healthcare centres have necessary facilities and resources to meet your healthcare problems? (Please put the  $\surd$  mark in appropriate box)

Rating	1	2	3	4	5
Level	Perfectly adequate	Fairly adequate	Moderate	Fairly inadequate	Very inadequate

	<b>Providing Facilities To The Beneficiary</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Resources of Staff services					
2	Resources of Medicine					
3	Adequacy of rooms					
4	Availability of Beds					
5	Resources of Laboratory services					
6	Adequate availability of doctors for women					
7	Neat and clean hospital premises					
8	Proper disposal of waste					
9	Mobile medical vans are available when were require					
10	Doctor and nurse availability for mobile medical vans are adequate					
11	Vans reach each village sufficient number of times in a month					
12	Your villages covered by each medical vans are adequate					
13	Are you happy with existing medical facilities in your village					
14	Amenities>(*E.g. Electricity, running water, and toilets)					
15	Overall reception facility					

C. The following variables indicate the healthcare services delivery. Please put the  $\checkmark$  mark in appropriate box

Rating	1	2	3	4	5
Level	Excellent	Good	Fair	Poor	Very poor

	<b>Primary Healthcare Services In Rural Area</b>	1	2	3	4	5
	<b>Healthcare Delivery</b>					
1	Adequate availability of doctors					
2	Good diagnosis					
3	Satisfaction over prescriptions					
4	Quality of drugs					
5	Recovery/ cure					
6	Sufficient time to patients					
7	Payment arrangements					
	<b>Interpersonal And Diagnostic Aspect Of Care</b>					
1	Overall reception facility					
2	Good clinical examination					
3	Follow-up, monitoring of patients					
4	Adequate medical equipment					
	<b>Facility</b>					
1	Adequacy of rooms					
2	Adequate availability of doctors for women					
3	Neat and clean hospital premises					
4	Clean appearance of staff					
5	Proper disposal of waste					
	<b>Health Personnel Conduct and Drug Availability</b>					
1	Compassion and support					
2	Adequate respect to patients					
3	Availability of all drugs					

	<b>Financial and Physical Access to Care</b>					
1	Financial feasibility of treatment					
2	Ease of obtaining drugs					
3	Easy approachability					

6. Following the components of the involvement of Community Participation in Primary Healthcare. Please put the  $\checkmark$  mark in appropriate box

	<b>involvement of Community Participation program</b>	<b>Yes</b>	<b>No</b>
1	Are you aware of the Education of the people about prevailing health problems and the methods of preventing and controlling?		
2	Are you aware of the Promotion of food supply and proper nutrition?		
3	Are you aware of the Maternal and child health care and family planning?		
4	Are you aware of the Immunization against major infectious diseases?		
5	Are you aware of the Prevention and control of endemic diseases?		
6	Volunteer organization involvement in rural healthcare centers for treatment to the patient		
7	Are you aware of the Provision of essential drugs?		

10. Following the functions of Coordination with community by ASHA/VHW in primary healthcare Please put the  $\checkmark$  mark in appropriate box

Rating	1	2	3	4	5
Level	Excellent	Good	Fair	Poor	Very poor

	<b>Coordination with community by ASHA/VHW</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Promoting universal immunization?					

2	Promoting construction of household toilets?					
3	Coordination with panchayat and self help groups?					
4	Coordination with anganwadi workers?					
5	Is looking after maternal care properly?					
6	Monitoring of Water quality in the village					
7	Providing Primary medical care(fevers, Iron Folic Acid Tablet, minor injuries , etc)					
8	Is there any improvement in your access of services from health workers?					

**11.** What would you consider the following important variable of your health practices?  
Please indicate rank of importance where 1 is most important, 2 is second most important, 3 is third most important, etc.

<b>Variable</b>	<b>Rank</b>
Availability of medicine	
Necessary care for the healthcare problem treating	
Promotion of healthcare program	
Home care	
Infrastructure improvement	
Other (specify )	

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**A STUDY ON MANAGEMENT OF RURAL HEALTHCARE IN  
ANDHRA PRADESH**

A synopsis submitted to the University of Hyderabad in partial fulfillment  
for the award of the degree of

**DOCTOR OF PHILOSOPHY**

By

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(08MBPH06)

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**SCHOOL OF MANAGEMENT STUDIES**

**UNIVERSITY OF HYDERABAD**

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## **1.0. 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 Reorganisation 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 standard 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 on 24x7 basis 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 organisations 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.

## **2.0. 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.

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)

### **3.0. 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. Accredited Social Health Activist (ASHA) Programme 2. Strengthening public health infrastructure 3. Fostering Public-Private Partnerships 4. Decentralisation of Health Planning:

### **4.0. 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." (Ahmed Manzoor- 1980)

### **5.0. 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 and providers.

### **6.0. 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.

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.

### **7.0. Research Questions**

The following research questions emerged from the literature study and the pilot study:

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.

## **8.0. 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**

Second chapter focuses on review of literature which presents 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 are studied their research articles and literature.

### **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 are 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.

## **9.0. 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 tracking failures which may possibly lead to effective decision-making within the rural healthcare entities. In order to substantiate the main objective, the following secondary objectives of the study have been framed:

1. To study the policies and practices of government of India for financing of rural healthcare services
2. To examine the management practices 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 the effective management of rural health care services

## **10.0 Hypotheses 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.

## **11.0. Limitations of the study:**

1. As resource constraints did not permit a study at the national level. As the study cover 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.

### **12.0. Sample design.**

The study has followed 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 discussed as follows:

(2). First stage sampling (selection of district). Three districts selected out of the 23 districts in the State.

(3). Second stage sampling (selection of PHCs). 45 PHCs out of 237 PHCs selected.

(Random sample basis)

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

### **12.1. Krejcie & Morgan (1970) suggested a method for selection of sample size.**

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:

$$n = \frac{X^2 * N * P * (1-P)}{(ME^2 * (N-1)) + (X^2 * P * (1-P))}$$

Where :

- n = sample size
- X<sup>2</sup> = 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 primary healthcare centre beneficiaries from three districts in Andhra Pradesh (MBNR, ANNP and GUN).
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 primary healthcare centres, total population covered under the 15 PHCs (30000\*15= 450000) 450000.
5. The study also selected 45 primary healthcare canters, 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.

## **12.2. Sources of Data and Tool for Data Collection**

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 responses and all existing relevant document and reports has been consulted and field visits have been made to obtain first-hand knowledge of issues, problems and concerns.

### **12.3. Reliability of Instruments**

For the study one instrument was designed. Initially 66 statements were framed for beneficiaries, the target sample of 900 respondents (beneficiaries) were analyzed. It is found that the Chronbach's alpha values of beneficiaries" (0.728), shows are more significant as the value crosses 0.65 where as minimum acceptable value prescribed is 0.6

### **12.4. 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.

### **13.0. Review of Literature**

Dileep v. Mavalankar (2008) this study explores about the primary health care system in India is very large and covers almost all the parts of the country. It has more than 20,000 PHCs and 140,000 sub-centres spread in more than 400 districts. This system consumes large amount of resources and is the system which provides the services for primary care including preventive program. The system is mainly managed by doctors, some of whom have brief public health training. This study argues that given the lack of training of doctors in management it is imperative that the doctors who are put in charge of the PHCs system receive reasonable skills and training in management so that the resources spent on the PHCs system can be utilized well - in an efficient and effective manner.

Haines; r. Horton; z. Bhutta (2007) this study reveals the vision of primary health care (PHCs) in the Alma Ata declaration and highlights some of the management concept between this and the selective approach to PHCs, which promotes a few cost-effective interventions. The study explain that despite movements towards selective packages of health care and health-care reforms the idea of PHCs as described in the Alma Ata declaration is attracting renewed interest. There are several reasons for this shortage in health workers, especially in developing country or states, have renewed interest in the role of community-health workers; the study also highlights the growing research evidence about the cost-effectiveness of some components of PHCs, such as the role of community participation improving neonatal and maternal mortality in India.

Medical and public health report (2008) study main primary objective of the state is to actively promote the welfare of the people by extending promotive, preventive, curative and rehabilitative health care services. To achieve the objective, the state has taken steps to improve the health care delivery system so that it can reach the poorest section of the society by construction of buildings to provide more beds, provision of sophisticated equipments, providing specialized services, enhancing the strength of the medical as well as paramedical personnel and by improving the quality of services rendered.

Purendra Prasad (2000) depicted the image of health care related problems of the rural poor in Gujarat. The study shows that most rural poor have problems in accessing health care services not because they lack trust on biomedicine as is commonly perceived but because of the failure of the state to figure out the social spaces in health care policies. The corresponding findings of a study of the leptospirosis epidemic in Gujarat show that the quick supply of drugs, opening of special wards in the hospitals, increased allocation of equipment, doctors, health workers, during the 1997-99 epidemics was less significant to save lives.

Ramani KV and Dileep Mavalankar (2005) described the status of Indian health system. The study identified that the critical areas of management concerns in Indian health care system are mainly, non-availability of staff, weak referral system, poor service delivery, financial shortfalls and lack of accountability of quality of care.

Ravi Duggal (2007): the way in which healthcare is financed is critical for equity in access to healthcare. At present the proportion of public healthcare resources committed to healthcare in India is one of the lowest in the world, with less than one-fifth of health expenditure being publicly financed. India has large-scale poverty and yet the main source of financing healthcare is out-of-pocket expenditure. This is a cause of the huge inequities we see in access to healthcare. The article argues for strengthening public investment and expenditure in the health sector and suggests possible options for doing this. It also calls for a reform of the existing healthcare system by restructuring it to create a universal access mechanism which also factors in the private health sector.

K. Kananatu (2000) this reviewed presents an overview of the India healthcare system and its method of financing. The development of the healthcare delivery system in India is commendable. However, the strength and weaknesses of the public healthcare system and the financing problems encountered are also discussed. Cost of healthcare and funding of both the public and private sectors were also revealed. One must optimise the advantages of operating a health financing scheme which is affordable and controllable which contribute towards cost-containment and quality assurance. Thus, there is a need for the establishment of a national healthcare financing, a mechanism to sustain the healthcare delivery network and operate it as a viable option. A model of the national health financing was proposed.

### **13.1. Primary Health Care Model in India**

Currently the pattern that is followed to implement the national model for primary health Care in rural areas is as follows; there is a Community Health Centre (CHC) for a population of 120,000 (or 80000 in hilly and tribal areas). CHCs are based mostly at the Taluk level or in a village with a large population, which is also widely accessible, from a cluster of surrounding villages. A PHCS is for 30000 people (or a PHCS for every 20000 people living in hilly and tribal areas). For each PHCS there are 6 Sub-centres (SC) which cater for a population of 5000 people (and in hilly and tribal areas for a population of 3000 people). A medical doctor along with a team of Auxiliary Nurse Midwife (ANM) and Male health worker (also known as a Multi-Purpose Health Worker MPHWS) run each sub-centre. These SCs are the most peripheral contact point between primary healthcare systems and the community. PHCs and SCs have a wide range of functions

that are mainly promotional and educational relating to maternal and child health, family welfare, nutrition, immunisation, diarrhoea control and control of communicable diseases (MOHFW 2001 - available at [www.mohfw.nic.in](http://www.mohfw.nic.in)).

The physical access to such centres is generally based on the policy that PHCs and SCs should be accessible within two hours using local modes of transportation. In urban India this is possible, unfortunately in rural India there are lots of loopholes in the policy on access to PHCs, and therefore in many areas in India this two-hour policy may not be applied. Sometimes this is due to the geographic location, e.g. the state of Jammu and Kashmir where the average area covered by each PHCs is 662 sq km (hilly terrain) whereas the Indian average is 145 sq km/PHCS. It could also vary due to the sparse spread of population in certain states of India e.g. Madhya Pradesh.

**Table: 1- Staffing Norms.**

S.NO	Central government Guidelines	CHC	PHCS	SUB CENTRE
1	Number of doctors	4	2	1
2	Number of paramedical workers	21	14	3
3	Number of inpatient beds	30	4-6	0

Source MOHFW 2001.

Would depend on whose perspective one would like to consider: either the Government's or the beneficiaries. The answer to this is revealed in later chapters where the study have analysed the data from the field study. The intention of setting the standards lower than that of the GOI is that many states agree in principle that the GOI pattern is desirable and will eventually comply with it. However the various existing constraints and the unavailability of certain resources make it very hard to comply with the GOI pattern; hence the option of BMS is used. For example according to the GOI it would be ideal to have a male and female doctor to work in a PHCS in order to share the work load and also to help to cut across socio-cultural barriers that exist in India e.g. where women prefer to be seen by women for their healthcare needs in certain segments of society. However in Andhra Pradesh State very few PHCs adopt this model because not many women are willing to work in remote and inaccessible villages. Hence the state is forced to run the PHCs with one doctor or two male doctors. Similarly other staffing requirements are also compromised under the BMS where it appears that certain

vacancies are not filled on time or appear to be completely ignored due to the financial burden involved.

#### 14.0. Data Analysis

The study uses the Percentage analysis has been applied to create a table from the frequency distribution and represent the collected data for a better understanding. The study also used Correlation coefficient analysis, chi-square and factor analysis tests to substantiate the hypothesis framed for the study.

#### 14.1. Percentage analysis

The study uses the Percentage analysis has been applied to create a table from the frequency distribution and represent the collected data for a better understanding. To identify the factors contributing to community and primary healthcare delivery services performance and the factors contributing to primary healthcare delivery services.

The following Table indicates the performance scores of Performance of Primary Healthcare Centers and Involvement of Community Participation on Likert five point rating scale. The higher score close to 1 indicates the performance of the indicator favourable and score close to 5 specify the poor performance of the indicator. The indicator score, category scores and overall Performance of Primary Healthcare Centers and Involvement of Community Participation are calculated as follows.

**Table: 2 - Performance of Primary Healthcare Centers, Primary Healthcare infrastructure facility Involvement of and Community Participation**

Category	Indicator	1	2	3	4	5	Mean	Variances
Primary healthcare services	Adequate _availability doctors	0.10	0.26	0.31	0.25	0.08	2.96	1.36
	Good diagnosis	0.10	0.25	0.32	0.27	0.06	2.84	1.63
	Satisfaction over prescriptions	0.06	0.28	0.30	0.22	0.11	3.01	1.24
	Quality of drugs	0.06	0.24	0.34	0.26	0.12	2.34	1.10
	Recovery/ cure	0.06	0.23	0.34	0.27	0.08	3.42	0.68
	Sufficient time to patients	0.05	0.20	0.37	0.27	0.09	1.95	0.89
Primary Healthcare infrastructure facility	Adequacy of rooms	0.13	0.25	0.35	0.20	0.06	2.79	1.17
	availability_doctors_women	0.11	0.26	0.32	0.21	0.07	2.86	1.22
	Neat and clean hospital premises	0.10	0.32	0.35	0.20	0.08	2.12	1.14
	Adequate respect to patients	0.12	0.27	0.22	0.08	0.11	2.90	1.06
	Proper disposal of waste	0.12	0.26	0.31	0.19	0.10	2.11	1.03
	Adequate medical equipment	0.15	0.26	0.30	0.16	0.05	2.87	1.7
	Availability of all drugs	0.06	0.11	0.17	0.33	0.33	2.93	0.78
	Resources of Laboratory services	0.05	0.16	0.17	0.36	0.26	1.12	0.92
Availability of Beds	0.09	0.11	0.02	0.31	0.36	2,31	1.48	

Community participation in rural area	Promoting universal immunization	0.16	0.34	0.18	0.17	0.15	2.58	1.21
	construction household toilets	0.06	0.11	0.30	0.25	0.28	2.97	1.09
	Coordination panchayatself groups	0.06	0.19	0.32	0.31	0.12	3.12	1.13
	Coordination with anganwadi	0.15	0.16	0.35	0.24	0.10	2.98	1.04
	Is looking after maternal care	0.09	0.31	0.18	0.13	0.29	2.83	1.18
	Monitoring of Water quality	0.14	0.26	0.31	0.24	0.05	2.53	1.51
	Providing Primary medical care	0.08	0.17	0.41	0.26	0.08	3.08	0.96
	Improvement _access of services	0.16	0.27	0.32	0.23	0.2	2.69	1.05

1. The mean value for any categorical variable is three alternatives may not be three
2. The proportion of randomly chosen person out of 900 irrespective of any variable their preference towards category two, three and four is at least 450

According to above table the variables are mainly divided into primary healthcare delivery services. Primary healthcare infrastructure facility and community participation in rural area. Each variable in the main categories are sub-divided into 5 categories. The notation and explanation for each category is explained below. (1- 2- 3- 4- 5- ).

The total number of the questionnaires for this sample survey is 900. The probability of each category was calculated by the following way. Let P, be the probability of the first category was defined as follows.

$$P_1 = \frac{\text{Number of respondent to that category}}{\text{Number of total respondent}}$$

For example in the variable, adequate availability doctors the responded were in the category '1' is 90 and the probability of category 1 is

$$P_1 = \frac{90}{900}$$

Similarly probability for the other variable and other categories are calculated in this manner. If we assume that each categories in each variable is equally likely. i.e., in words the respondent prefers either any one of the category is same as other.

$$P_1 = P_2 = P_3 = P_4 = P_5 = P$$

So value of P. The mean of the each variable is explained by sum of the probabilities and their respective.

$$\bar{x} = \sum_{i=1}^5 x_i p_i \quad i = 1,2,3,4,5$$

The variance of each category is explained by

$$Var(x) = \sum x_i^2 p_i - \left( \sum x_i p_i \right)^2$$

If each of the proportion is same as the other category then the variance value is very less. If variance is high which means that the categories in the extremes play a major. If proportion of the category one is very high then variance is skewed towards the category and if the proportion is very high in the category 5. The variance is skewed towards the category.

In this study mainly focused on identifying the major factors that influence the primary healthcare services of the rural healthcare management in Andhra Pradesh to measure the opinions on likert scales is used 1 to 5, the total representative sample size is 900. Mean score and variances were calculated for those factors influence primary healthcare services. Those score it is observed that development of Performance of Primary Healthcare Centers, Primary Healthcare infrastructure facility and Involvement of Community Participation are highly indicating their preferences on category 3 and 4. It means these factors highly influence on delivery of primary healthcare services on category 3 and 4 to the rural healthcare management. (Category 3 and 4 showing “Fair and Poor”.)

#### **14.2. Test of hypothesis**

Chi-square test is performed to substantiate the research hypotheses (H1 to H3) framed for this study for which the level of significance is fixed at 5 percent (i.e.  $\alpha = 0.05$ ). The tests are carried out using statistical software tool i.e., SPSS 17. The study on the hypothesis H2 and H3 with their respective probability value, calculated value and their significance at 5 percent i.e.  $\alpha = 0.05$ .

Factor analysis and Correlation coefficient analysis test is conducted to test the hypothesis (H4-H5) framed for the study for which the level of significance is fixed at 5 percent (i.e.  $\alpha = 0.05$ ). The tests are carried out using statistical software tool i.e., SPSS 17. The study on the hypothesis H1, H4 and H5 with their respective probability value, calculated value and their insignificance at 5 percent i.e.  $\alpha = 0.05$ .

#### **Test of Hypothesis - Chi-Square Analysis**

**Hypothesis (H1):** Beneficiaries are Satisfied with Services provided by the Rural Healthcare Centres

**Table: 3- Summary of Chi-Square Analysis (H1)**

S.No	Variables	Pearson chi-square			
		Values	Df	Asymp. Sig.(2-sided)	Result
1	Health-care Promotion awareness	28.134a	12	0.001	significant
2	The efforts taken by health servants	21.759a	12	0.051	Insignificant
3	The degree of Cure of the diseases	18.786a	12	0.442	Insignificant
4	The help of doctors and nurses	19.016a	12	0.054	Insignificant
5	Cleanliness is improved	18.622a	12	0.031	significant
6	The medical staff efficiency	23.467a	12	0.000	significant
7	Follow-up, monitoring of patients	14.213a	12	0.061	Insignificant

The complete result of health-care programme awareness, cleanliness in health-care centres, and the medical staff efficiency variables are accepted, remaining four variables are the efforts taken by the health-care servants to the beneficiaries, the degree of cure of the diseases, the role of the doctors and nurses to the beneficiaries, and monitoring of patient are rejected. Hence out of 7 variables majority number four variables are rejected. It says the hypothesis “Beneficiaries are not satisfied with services provided by the rural health-care centres”. Since the calculated majority of variable values are greater than table value alternative hypothesis is rejected. There is no between significance of services provided by PHCs and the satisfaction level of the respondents.

**Hypothesis-2:** Beneficiaries are highly dependent on availability of facilities in rural health-care centres.

**Table: 4- Summary of Chi-Square Analysis (H2)** (Mahaboob nagar, Ananthapur and Guntur)

S.No	Variables	Pearson chi-square values of three districts			
		Values	Df	Asymp. Sig.(2-sided)	Result
1	Resources of staff	7.626, 18.003 & 9.018	8,8, &12	0.001, 021& 001	significant
2	Availability_medicine	6.012, 7.038 & 8.792	8,8, &12	0.062, 052&042	Insignificant
3	Adequacy of rooms	3.677, 4.035 & 11.008	8,8, &12	0.032, 004 & .23	Significant
4	Availability of beds	13.083, 23.103 & 8.408	8,8, &12	0.000, 003 & 012	Significant
5	Resources_laboratory	18.45, 26.84 & 31.963	8,8, &12	0.051, 003 & 048	Insignificant
6	Mobile medical vans	3.175, 3.770 & 9.63	8,8, &12	0.000, 003 & 012	significant
7	availability of doctors	8.218, 6.197 & 7.84	8,8, &12	0.324, 625&0.297	Insignificant
8	Neat_clean hospital	10.593, 17.78& 20.97	8,8, &12	0.031, 023 & 026	significant
9	disposal of waste	4.591, 5.189 & 13.453	8,8, &12	0.625, .737&.337	Insignificant
10	Availab_staff_van	6.129, 5.490 & 7.690	8,8, &12	0.033, 036& 0013	significant

The complete result of resources of staff services, adequacy of rooms, availability of beds, mobile medical vans, neat and clean hospital and availability staff services in the mobile medical van are accepted. The remaining four variables - availability of medicines, adequacy of laboratory services, and proper disposal of waste and availability doctors for women - are rejected. Hence, out of 10 variables, majority number of six variables are accepted. Thus, it can be inferred that the hypothesis “Beneficiaries are highly dependent on availability of facilities in rural health-care centres” is true. Since the calculated value is less than the tabulated value, the alternative hypothesis ‘there is significant of availability of facilities in rural health-care centres and satisfaction level of the beneficiaries’ is accepted.

### **Test of Hypothesis – Factor Analysis**

**Hypothesis-3:** There are Significant deficiencies in providing timely Delivery Services to the Beneficiaries at Primary Health-care Centre Level

**Table: 5- Rotated Component Matrix (H3)**

	Component			
	1	2	3	4
1. Adequate availability of doctors	0.697			
2. Adequacy of rooms	0.684			
3. Adequate medical equipment	0.647			
4. Quality of drugs	0.638			
5. Recovery/ cure	0.597			
6. Sufficient time to patients	0.550			
7. Overall reception facility	0.459			
8. Good clinical examination		0.667		
9. Follow-up, monitoring of patients		9.661		
10. satisfaction over prescriptions		-0.567		
11. Good diagnosis		0.523		
12. Adequate availability of doctors for women				
13. Neat and clean hospital premises		0.516		
14. Clean appearance of staff		0.514		
15. Proper disposal of waste		0.496		
16. Compassion and support		0.429		
17. Adequate respect to patients			0.633	
18. Availability of all drugs			0.547	
19. Financial feasibility of treatment			0.447	
20. Ease of obtaining drugs				0.648
21. Easy approachability				0.645
22. Amenities*(e.g., electricity, running water, toilets)				0.586

23. Resources of Laboratory services				
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Extraction method: principal component analysis.

Rotated method: varimax with Kaiser Normalization

Rotation converged in 9 iterations

The rotated component matrix helps to determine what the components represents the rotation of the factors structure has clarified things considerable. There four factor and variables load highly onto these factors. The next step is too looking at the components of question that load onto the some factors to try to identify common themes. In other words. A group of variables is divided into subgroups of variables bases on similar characteristics. New factors now given to the newly dividend groups of variables. The question that loading highly on the factors seem to related to Adequate availability of doctors, Adequacy of rooms, Adequate medical equipment and Quality of drugs, therefore this factor is labelled as healthcare infrastructure facilities influences factors. The question that load highly on factor two all seem to related to Recovery/ cure, Sufficient time to patients, Overall reception facility, Good clinical examination, Follow-up, monitoring of patients and . Good diagnosis. Therefore this factor is labeled as primary healthcare delivery services influences factors. The question that load on factor three all contain component related to Financial feasibility of treatment, Ease of obtaining drugs, Easy approachability and Amenities\*(e.g., electricity, running water, toilets). Therefore this factor is labelled as financial and physical access to care influences factor. Finally the question that loads on factor four all component seem to related to compassion and support, adequate respect to patient and availability of all drugs therefore this factor is labelled as PHCs healthcare personal conducted and drug availability influences factor.

This analysis reveal that initial sub scale: infrastructure facilities influences factors, primary healthcare delivery services, financial and physical access to care and PHCs healthcare personal conducted and drug availability. These entire four factors have been mentioned in the form of a scree plot depicted in thesis. It can be seen from that diagram that after the four major variables that curve becomes parallel to the horizontal and the variables on it are negligible contributing to the dependent variable. Since calculated value is more than the tabulated value alternative hypothesis is rejected. There

is no significant deficiencies of providing Delivery Services Improvement on Time to the Beneficiaries at Primary Health-care Centre Level.

**Hypothesis-4:** Involvement of the community will improve the overall health-care delivery.

**Table: 6: Summary of Chi-Square Analysis (H4)**

S. No	Variables	Pearson chi-square values of three districts			
		Values	Df	Asymp. Sig.	Result
1	Prom_univer_immunizatio	8.11, 2.76& 5.95	8,6, &12	0.022, 037& 018	significant
2	Promote_construct_househ	12.86, 7.55& 16.00	8,8, &12	0.016, 038&001	significant
3	Coordination_panchayat	23.57, 6.56 &15.31	8,8, &12	0.053, 084& 055	significant
4	Coordination _anganwadi	10.92, 7.62 & 12.03	8,6, &12	0.006, 007&003	significant
5	Is looking after maternal	9.40, 8.41 &12.76	8,8, &12	0.009, 004&006	significant
6	Monitoring of Water quality	4.47, 7.88 &6.49	8,8, &12	0.81, .88&0.412	insignificant
7	Primary medical care	11.00, 8.12 &11.83	8,6, &12	0.001, 029&009	significant
8	Impro_access_health-	8.93, 21.48 & 5.28	8,8, &12	0.048, 006&009	significant

The summarises the analysis on: (i) promoting universal immunization, (ii) promoting construction household toilets, (iii) coordination with panchayat rajainstitution, (iv) coordination with anganwadi workers, (v) is looking after maternal care properly to mother, (iv) providing primary medical care to beneficiaries from primary health-care worker team and (vii) Improvement in access to health-care services Of these variables, only the hypothesis at monitoring of water quality this variable is rejected, the other seven are accepted. The conclusion drawn is: “Involvement of the community participation will help improve the overall health-care delivery”. Since the calculated value is less than the tabulated value, the alternative hypothesis is accepted. There is significant of Involvement of community participation and improvement in quality of the overall health-care delivery.

**Table: 7- Hypothesis overall result**

S. No	Hypothesis Statement	Result
Hypothesis (H1)	Beneficiaries are satisfied with services provided by the rural health-care centres	Rejected
Hypothesis (H2)	Beneficiaries are highly dependent on availability of facilities in rural health-care centres	Accepted
Hypothesis (H3)	There is a significant time association in providing delivery services to the beneficiaries at the primary health-care centre level	Rejected
Hypothesis (H4)	Involvement of community participation will improve the overall health-care delivery	Accepted

### **15.0. Important Findings and Suggestion.**

After analyzing the data, the major findings of the study are presented in this chapter. Suggestions have been made wherever appropriate for consideration and for further action by the policy makers. For effective management of rural healthcare in Andhra Pradesh. The finding have been presented on the current status of management of rural healthcare in AP

1. As regards awareness about availability of doctors in PHCs, majority of the respondents in the three districts replied in the affirmative. However, the apparent high rate of awareness cannot be interpreted as a high rate of people accessing primary health-care. On analysing the data, it is found that there is a strong association (statistically significant) with the number of times the respondents actually access PHCs and it appears to correspond with the awareness about availability of doctors.
2. The Confidence in the efficiency of the medical staff is very essential for the success of a medical centre. If the patients feel that those taking care of their health needs are not very competent, they (the patients) may not feel very motivated to follow the advice given. Alternatively, they may opt for availing of medical services from other sources. Table 5.14 brings out the perceptions of the respondents regarding the efficiency of the health-care staff. It can be seen that the overall positive ratings ('Good' plus 'Fair') outweigh the negative ones ('Poor' plus 'Very Poor'). However, it is pertinent to bring out here that the figures are almost equal in the case of Anantapur District. There should be greater focus on improving the level of confidence of the intended beneficiaries so that health-care centres can perform their functions more effectively.
3. PHC can perform its functions adequately only when it has sufficient staff services available. Many of the health issues may need to be tackled on the spot itself and referring serious cases to higher and more specialised medical centres may result in loss of time which may at times turn out to be fatal. Table 5.16(Chapter-5) brings out that only in Guntur district did a large number of respondents find these services to be 'Perfectly Adequate'. Majority of the respondents in Mahaboob Nagar (41.6%) and Anantapur (39.6%) gave the rating

- ‘Moderately Adequate’. Vigorous efforts need to be undertaken by the medical authorities to ensure that the staff services are reasonably adequate. Otherwise, the very purpose of establishing a PHC may be defeated.
4. A medical centre can perform its functions effectively if it is equipped with facilities like assured electricity supply, running water and toilets. Electricity would help to provide lighting, allow fans to run and facilitate the running of sophisticated equipment. Running water would improve the cleanliness of the centre besides adequately meeting the various water needs of the medical staff and the patients. Toilets would help in maintaining sanitation in the centre. We can see from Table 5.25 (Chapter-5) that in the case of Mahaboob Nagar and Guntur districts, the generally positive ratings (‘Fairly Adequate’ plus ‘Moderately Adequately’) outweigh the negative ones (‘Fairly Inadequate’ plus ‘Very Inadequate’). However, in Anantapur district, the story is quite different. A noticeable feature is that respondents have tended to give the least weightage to the extreme ratings – ‘Perfectly Adequate’ and ‘Very Inadequate’. This is true for all the three districts.
  5. The effectiveness of any medical centre depends largely on the quality of its service delivery. This is particularly true of rural PHCs since a large number of patients are likely to utilise their services. Table 5.26 (Chapter-5) makes interesting reading. In Mahaboob Nagar district, the number of negative ratings (‘Fairly Inadequate’ plus ‘Very Inadequate’) exceeds that of the positive ones (‘Fairly Adequate’ plus ‘Moderately Adequate’). However, in the other two districts, the respondents are more favourably inclined.
  6. To test the hypothesis seven components of services have been selected which are relevant for services provided by the rural healthcare services: healthcare promotion awareness through the program, the efforts taken by health servants, the degree of cure of the diseases, the help of doctors and nurses, cleanliness is improved or not, the medical staff efficiency and follow up monitoring of patient. The table 5.57 indicate the complete result of health-care programme awareness, cleanliness in health-care centres, and the medical staff efficiency variables are accepted, remaining four variables are the efforts taken by the health-care servants

to the beneficiaries, the degree of cure of the diseases, the role of the doctors and nurses to the beneficiaries, and monitoring of patient are rejected. Hence out of 7 variables majority number four variables are rejected. It says the hypothesis “Beneficiaries are not satisfied with services provided by the rural health-care centres”. Since the calculated majority of variable values are greater than table value alternative hypothesis is rejected. It shows that services provided by PHCs are not upto the satisfaction level of the respondents.

7. The Table 5.78 shows the complete result of resources of staff services, adequacy of rooms, availability of beds, mobile medical vans; neat and clean hospital and availability staff services in the mobile medical van are accepted. The remaining four variables - availability of medicines, adequacy of laboratory services, and proper disposal of waste and availability doctors for women - are rejected. Hence, out of 10 variables, majority number of six variables are accepted. Thus, it can be inferred that the hypothesis “Beneficiaries are highly dependent on availability of facilities in rural health-care centres” is true. Since the calculated value is less than the tabulated value, the alternative hypothesis ‘there is significant the results indicate that management of healthcare centre require improvement in supply and availability of medicine, capability of laboratory services, proper management of water, the results also indicate that women doctors need to be employed at primary healthcare centres between availability of facilities in rural health-care centres and satisfaction level of the beneficiaries’ is accepted.
8. The analysis reveal that initial sub scale: infrastructure facilities influences factors, primary healthcare delivery services, financial and physical access to care and PHCs healthcare personal conducted and drug availability. These entire four factors have been mentioned in the form of a screen plot depicted in page no 228. It can be seen from that diagram that after the four major variables that curve becomes parallel to the horizontal and the variables on it are negligible contributing to the dependent variable. Since calculated value is more than the tabulated value alternative hypothesis is rejected. There is no significant

deficiencies of providing Delivery Services Improvement on Time to the Beneficiaries at Primary Health-care Centre Level.

9. Table 5.101 Summarises the analysis on: (i) promoting universal immunization, (ii) promoting construction household toilets, (iii) coordination with panchayat rajainstitution, (iv) coordination with anganwadi workers, (v) is looking after maternal care properly to mother, (iv) providing primary medical care to beneficiaries from primary health-care worker team and (vii) Improvement in access to health-care services Of these variables, only the hypothesis at monitoring of water quality this variable is rejected, the other seven are accepted. The conclusion drawn is: “Involvement of the community participation will help improve the overall health-care delivery”. Since the calculated value is less than the tabulated value, the alternative hypothesis is accepted. There is significant improvement between Involvement of community participation and improvement in quality of the overall health-care delivery.
10. The increased public health spending should finance infrastructure improvements in the rural sub-centres, primary and community health centres and the district hospitals. Additionally, a much higher level of spending is needed for higher salaries to be paid to doctors working in remote and inaccessible rural areas, essential drugs and supplies, vaccines, medical equipments, laboratories, and the like. In terms of human resources in the health centres, state governments need to appoint more auxiliary nurse midwives, trained birth attendants, technicians, pharmacists, doctors, and specialists. In the lagging states, governments need to provide cell phones to doctors and ANMs in rural PHCs. These measures will help increase the utilisation of the public health centres and consequently bring down the rather high out-of-pocket expenses of their rural residents.

## **16.0. Conclusion**

Primary health-care is a vital aspect in rural health-care delivery system. Therefore, the study analysed various factors that contribute to the primary health-care centre’s performance. It can be concluded that reliability in a PHC’s delivery, providing infrastructure facilities, involvement of and coordination with community participation are influencing the performance of primary health-care services. The study also attempted

to identify the factors influencing rural health-care delivery services and concluded that lack of effective delivery services in primary health-care, on various aspects of health-care in rural areas of Andhra Pradesh and most of them have pointed out that those deficiencies in vital resources and poor coordination in administering the levels of staff required are having an adverse effect on the primary health network. Insignificant impact on the rural health-care delivery services. Several hypotheses have been tested using Chi-square, factor Analysis and, at the final stage, correlation coefficient analysis test. The majority of analysis variables results are found to be insignificant.

### **17.0. Direction for Future Research**

The current study demonstrates that the instrument employed was reliable and possessed the power to discern differences in the opinion of people on the basis of demographic factors and point out the quality and delivery differences in different health-care centres. The selection of the respondents on the basis of convenience may have limited the precision of the study, but the findings urge the government and policy makers to consider the perceptions of patients as well in order to bring about improvements in the delivery of services and subsequently increase their utilisation levels. Immediate steps need to be undertaken to ensure availability of doctors, medical equipments, and good quality of drugs. The study was however, limited to certain areas of Andhra Pradesh (Mahaboob Nagar, Anantpur and Guntur districts). Therefore, it is suggested that similar studies be carried out in other rural and urban regions of the country and include the private health-care service providers as well. Further, researches could be conducted on: Primary health-care infrastructure development and health-care financial management. There is a pressing need for a research infrastructure which will provide information on access to primary medical care, and the kind of services medical and allied health professionals who can be accessed by that the hitherto deprived sections of society.

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