COST OF PROVISION OF HEALTH CARE SERVICES IN PRIMARY HEALTH CENTRES IN MEDAK DISTRICT OF ANDHRA PRADESH (UNITED)

A Thesis submitted to the University of Hyderabad in partial fulfillment of the requirements for the award of the degree of

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In

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BY

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CERTIFICATE

This is to certify the Thesis entitled **"Cost of Provision of Health Care Services in Primary Health Centers in Medak District of Andhra Pradesh (United)"** submitted by **Mrs. Anuradha.S** bearing **Regd. No.05SEPH14** in partial fulfillment of the requirements for the award of Doctor of Philosophy in the School of Economics is a bonafide work carried out by her under my supervision and guidance.

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DECLARATION

I, **Anuradha.S** hereby declare that this Thesis entitled **"Cost of Provision of Health Care Services in Primary Health Centers in Medak District of Andhra Pradesh(United)"**submitted by me under the supervision of **Prof. S. Sandhya** is a bonafide research work. I also declare that it has not been submitted previously in part or in full to this University or any other University or Institution for the award of any degree or diploma.I hereby agree that my thesis can be deposited in Shodhganga/INFLIBNET.

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Anuradha Seelam

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ACRONYMS

AMG	=	Annual Maintain Grants
AVD	=	Alternative Vaccine Delivery
AEFI	=	Adverse Event Following Immunization
ANM	=	Auxiliary Nurse Midwife
ASHA	=	Accredited Social Health Activist
ARI	=	Acute Respiratory Infection
AWW	=	Anganwadi Worker
APMO	=	Assistant Para-Medical Officer
ANC	=	Antenatal Care
ARV	=	Anti-Retroviral Treatment
ANMOL	=	Anm online
AC	=	Advisor Committee
BCG	=	Bacille of Indian Standards
BCC	=	Behavior Change Communication
CHO	=	Community Health Officer
CDC	=	Central Drug Stores
CBR	=	Crude Birth Rate
CMO	=	Chief Medical Officer
CC	=	Curative Care
CDC	=	Communicable Disease Control
DDK	=	Disposal Delivery Kit
DM&HO	=	District Medical Health Officer
DPMO	=	Deputy paramedical Officer
DE	=	De-worming
DPT	=	Diphtheria, Pertussis and Tetanus Vaccine

DT	=	Diphtheria and Tetanus Vaccine
DOH	=	Department of Health
DDS	=	Direct Delivery Service
ENV	=	Environmental Sanitation
EPI	=	Expended Programme on Immunization
FP	=	Family Planning
FRU	=	First referral Unit
GPSTU	=	Gross Programme Specific Time Use
HIV	=	Human Immunodeficiency Virus
HDSF	=	Hospital Development Society Fund
HA/LHV	=	Health Assistant /Lady Health Visitor
IUD	=	Intrauterine Device
IP	=	Infection Prevention
IP	=	Inpatient
IEC	=	Information Education and Communication
IFA	=	Iron and folic Acid
IUCD	=	Intra Uterine Contraceptive Device
IPHS	=	India Public Health Standard
IMR	=	Infant Mortality Rate
ICDS	=	Integrated Child Development Scheme
JSY	=	Janani Suraksha Yojana
JSSK	=	Janani Sishu Surakha Karajan
JBAR	=	Jawaharlal Baal Aragua Rakia
LT	=	Lab Technician
MCH	=	Maternal and Child Health
MTP	=	Medical Termination of Pregnancy

MO	=	Medical Officer
MD	=	Medicine Doctor
MRO	=	Medical Review Officer
MPHEO	=	Multipurpose Health Extinction Officer
MPHS (f)	=	Multi Purpose Health Supervisor (Female)
MPHS (M)	=	Multi Purpose Health Supervisor (Male)
MPHA (F)	=	Multi Purpose Health Assistant (Female)
MPHA (M)	=	Multi Purpose Health Assistant (Male)
MOHFW	=	Ministry of Health and Family Welfare
NPA	=	Non Productive Activity
NLEP	=	National Leprosy Eradication Programmed
NPCB	=	National Programmed for Control Blindness
NHP	=	National Health Policy
NFHS	=	National Family Health Survey
NRHM	=	National Rural Health Mission
NACP	=	National AIDS Control Programme
NIHFW	=	National Institute of Health & Family Welfare
OT	=	Operation Theater
OT	=	Out Patient
OPV	=	Oral Polio Vaccine
ORS	=	Oral Rehydration Solution
PHC	=	Primary Health Centre
PHN	=	Public Health Nurse
PPP	=	Pulse Polio Programmed
PPTCT	=	Prevention of Parents to Child Transmission
RCH	=	Reproductive and Child Health

RTI	=	Reproductive Tract Infection
RKS	=	Orgy Kalian Semite
RNTCP	=	Revised National Tuberculosis Control Programmed
SN	=	Staff Nurse
SPHO	=	Senior Public Health Officer
SC	=	Sub Centre
STI	=	Sexually Transmitted Infections
TT	=	Teams Toxic
TDA	=	Trained Birth Attendant
TB	=	Tuberculosis
UF	=	Untied Fund
UIP	=	Universal Immunization Programmed
VHSF	=	Village Health and Sanitation Fund
VHSNC	=	Village Health Sanitation and Nutrition Committee
VAPP	=	Vaccine Associated Paralytic Poliomyelitis
VCT	=	Voluntary Counseling and Testing
WHO	=	World Health Organization
WBC	=	White Blood Corpuscle
WHV	=	Women Health Volunteer

DEDICATED TO MY BELOVED FATHER

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CHAPTER –1

Introduction

BACKGROUND

1.1 Approach for Primary Healthcare

Throughout the World health care systems are shaped by the historical context of their countries as well as prevailing political, economic and geographical conditions. Many developing countries inherited a health system after their independence from colonial rule that primarily focused on curative care, which was built to care a selected portion of the population only, leaving out the rural poor. Although some achievements in health were noticed by 1950s and 1960s, infectious diseases were still widespread. By 1970s, it became clear that the health systems in the respective countries were not able to achieve the health outcomes desired by the World Health Organization (WHO). The high prevalence of infectious diseases, high infant and maternal mortality rates in the countries of Asia, Africa and Latin America made it clear, that the inherited health infrastructure was not adequately suited to cater the needs of the population.

Then there was a realization about the linkage between low health status and under development characterized by low productivity, high unemployment rate, malnutrition, and environmental degradation. UNICEF and WHO convened a global conference in 1978 in Alma Ata to address these issues and adopted the “Primary healthcare approach”.

It was felt that radical changes were needed in health care to effectively address the plethora of health problems in the World. Seven principles were laid out to promote equity in health care. They are, Community adaptation of the health systems to socio-cultural and political conditions, a shift towards more preventive and primitive care, focus on health education and development of other health related sectors like agriculture and housing were the main points.

Primary Health Care (PHC) Approach was a paradigm shift from curative, urban- based care to preventive rural based care. This change also required a new definition of health, as opposite to the conventional medical definition of health. The WHO had prepared in its constitution that the health "is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity." (WHO, 1946).The Alma Ata Declaration advocated this definition of health. Even though the classification has existed for a few years, it was only after Alma Ata that its contents were transformed into policy guidelines. All WHO member countries signed the declaration and were, therefore, called upon to implement primary health care (Anja Welschhoff, 2006).

India also had adopted PHC approach since 1978 to address the health issues. India has developed a massive and impressive infrastructure of more than 20,000 PHCs and 30,000 sub-centres to provide primary health care in rural areas. In spite of the large investments in health sector, the results have generally not been commensurate with the manpower, financial and other resources invested in this sector. Mortality and morbidity have declined slowly. Because of problems in the PHC system in India, majority of people are using private sector for basic curative health services. This was observed by National Family Health Survey data on treatment for diarrhea and fever/cough and recent data from the UNICEF supported Multi indicator Cluster Survey in Gujarat.

For various compelling reasons, governments often finance and provide social services like basic health care and education. Since the public resources are usually limited in developing countries, the efficiency in spending the scarce resources becomes an important dimension of social services. Public health programmes are expected to provide the greatest benefit within the limited resources available so that the patients and the community get at least the optimal, rather than maximum health care. When public health facilities are weak and accountability for the use of public resources is low, the public expenditure on health may not result in the expected health outcome for the community. On the other hand, the resources provided to the public health facilities are underutilized in India. Underutilization of the public health facility hospitals arises due to reasons like: poor resources, weak administration, vacancies not filled, shortages in

supply of medicines and equipment, absenteeism among staff and improper location. All these can lead to the wastage of public resources. Unless the efficiency of spending increases, any extra fund allocated could be wasted. Improving the utilization attracts more patients and reduces the per capita cost. High volume of patients can enable the PHC to attend to a larger number of patients at a lower cost.

In India, the public expenditure on health care has come down considerably in recent years due to the structural adjustment policies. The reduced spending on health care can lead to an increase in imbalances and inequities between the poor and the rich in health outcomes. Under such circumstances, understanding how best the public health resources are utilized at the hospital level becomes very important for policy makers. Method applicable in the Indian setting that can highlight the distribution of health expenditures by functions.

While resources are limited, the demand for health care facilities has been rapidly growing in India - as in most of other countries. There is a need for efficient utilization of resources that are services are available to meet the growing demand for health services. In order to promote efficiency and arrive at right decisions about priorities, studies of cost are very important for various programmes and activities in the field of health.

The cost of medical treatment of an average patient could vary from country to country and even regions within a country. Still, there has to be at least some minimum level of allocation of resources for medicines. Any amount below that could be considered as inadequate. Despite, its loud proclamations of being a welfare state, even today, India does not have a uniform national policy on how much money should be provided on per capita basis for medicines within the PHC system. Each state seems to have its own agenda on this issue.

In most of the developing countries very little information is available about the costs of public health services in spite of its usefulness, especially health planning. It is also needed for health budgeting, where information on total and unit cost of services is required to assess the financial requirements of programme maintenance or expansion.

Further, several important policy questions require cost data for proper analysis. Direct costing of services can provide detailed estimates of allocation of resources for comparing programme and planning priorities. Cost data can also be used to measure the service efficiency or productivity and hence support efforts to improve the management of health services.

1.2. Review of Literature:

Many studies have been undertaken on the functioning of the healthcare system in India.

Harold A, Cohen (1967) has examined both cost of inputs and outputs of services and constructed a cost curve. He found that the available evidence was insufficient to make any further narrowing down possible. It was found that many patient costs on an annual basis, are variable, with marginal costs per unit of output between $21.50 and $22.00 for a hospital of about 200 beds.

Judith R. Lave and Lester B. Lave (1970) in their study on Pennsylvania Hospitals developed a computationally simple model and a plausible one, which when applied to hospital data, can lead to stable and consistent results. They used several different sets of data and several alternative specifications of the model. Their study examined variation in average costs (cost per patient day, cost per bed day, cost per patient, and cost per service unit) across hospitals which differ in hospital occupancy rates, size and product mix. This found the reasons for cost increase in a hospital are complex and direct comparison of rates of cost increase is misleading. This method allowed to control many of the complicating factors and thus helps to isolate hospitals, whose cost increases really are out of line.

C. Alex Alexander, Robert L, Parker B.S. Shankarnarayana and A.K. Srinivas Murthy, (1972) was under taken in 4 blocks, two from Punjab and two from Mysore in 1968-69. The five major functions of PHCs are i) Medical Relief including all care of illness (MR) ii) Maternal and child health including personal preventive services which were on a very small scale (MCH), iii) Family Planning (FP) iv) Communicable Disease

Control (CDC) and v) Environmental Sanitation (ENV). It was found from the study that the total annual cost of operating a PHC was about Rs 1, 59,750 in Punjab and Rs.83, 400 in Mysore. In Punjab not only the salary scales were higher but the size of staff was more. It was found that in Punjab, FP costs accounted for 33% followed by medical relief CDC and MCH accounting for 29 %, 26%, and 11% respectively. In case of Mysore the respective percentages are 33, 32, and 19. The distribution of total PHC costs by type of work has shown that direct services accounted for 40% for Mysore and 36% for Punjab. In case of administration costs, it was accounted for 44% in Punjab and 43% is Mysore and the non-productive work accounted for 20% and 17%. The cost per outpatient visit was Rs 1.45 for Punjab and 0.94 for Mysore. Out of it, cost of drugs accounted for 0.15 for Punjab and 0.12 for Mysore. Injections and other treatments accounted for 0.08 for Punjab and 0.07 for Mysore. In case of services and overhead cost, it was Rs 1.22 for Punjab and 0.75 for Mysore.

J.I. De.Vries, T.K. Belding and S.H. Rajab, (1981) studied the cost analysis of overall health care services delivered through Rural Dispensaries (RDs) and Rural Health Centers (RHCs). They combined the primary care utilization figures with budget and cost data to arrive at estimates of per capital and per visit cost. The data was analyzed to find out the geographical coverage, health care needs and utilization of most of the maternal and child health services. They found that it is possible for Tanzania to implement a relatively effective, well organized rural health care system at operating (recurrent) costs of roughly US$ 1.50 per capita per year. They found that in LDCs budgeted costs of the non-durable goods are often grossly inadequate, (as low as 10% of the total operating costs) which becomes inadequate for PHC services.

A.M Zakir Hussain (1983) examined the costs (capital and recurring) incurred on various health care activities available in a Thana complex, in relation to the number of patients and the intensity of use of services. It was done in three stages. In the first stage, all direct expenditure was calculated for each activity, e.g., wards, outpatients, departments, tuberculosis services, etc. Stage two covers with general service costs, covering water, sanitation, security and administration which were divided among

various services. In the third stage, the cost of laboratory services was distributed according to the number of examinations carried out for each service. According to this study, the capital cost for 1979 were US$ 36 382, of which 84.6% were incurred on the buildings. Recurrent costs for 1979 were US$ 50 556, i.e., 62% of which are for salaries, reflecting the labour intensiveness of the health complex. He found that, in general, the cost per unit of activity depends mainly on the intensity of use of the resources. Unit costs incurred in the outpatient department, maternal and child health services and sub-centres were found to be relatively low because of the high rate of utilization of services. The reasons for these huge discrepancies are not known but may be related to differences in the programme budgets for 1976 and 1979.

Susan Veber Raymond and Barbara Lewis (1987) they established a cost data base, primarily for the Belize City hospitals and, secondarily, for other public curative and primary care institutions in the country. The study also examined the six district hospitals in Belize using a similar step-down methodology. The study concluded with a series of recommendations to the government, social security board and private sector, and for steps essential for resolving Belize's health cost finance problems. Finally, two recommendations were directed to the private sector. First, major employers should examine alternate methods of providing health care benefits, to control costs until such time as Social Security Benefits are expanded and second, private providers should seek help in acquiring greater expertise for providing expanded services.

HP. Berman and Brotowasisto M, (1989) examined the costing of government inputs to all public health services, below the district hospital level from the five provinces representative of the different regions of the country. The total costs of services, as well as the average costs for specific service functions, were estimated for the entire country, as well as for different provinces. The costs were estimated for a sample of 41 sub-districts and 168 health facilities, using an appropriate accounting method. The administrative costs were removed. They estimated the government health spending on rural primary health care in Indonesia and found that it was surprisingly low (23%) and also the absolute level of spending (US$ 0.65 per capita.) is also low. They also found

there was a large variability in the average costs. The average costs for most services were much greater than charges made to patients, and this provided information on the current level of government subsidies.

Thomanson J and Donaldson (1991) estimated the cost of rural health care services by the Papua government in 1988. Data was collected by stratified random sampling. Stratification was done by a combination of health centre or sub centre road or non-road access, and region. Staffing, financial, and output information was collected for the calendar and fiscal year of 1987 and allocation of time by personnel to programmes was collected for the year 1988. It was found that there were significant differences between the costs and output at Church and Government facilities and that the average level of utilization by the population, was higher at Church facilities. Many facilities were found to have significant excess bed capacity. Recurrent financing for transportation and maintenance was found to be inadequate.

P. Ferrinho and A. Valli (1991) found that the cost of drugs is a significant contributor to the PHC's expenditure. The system of public tendering for the drugs used at the AHC (Alexandra Health centre) has helped to keep costs low. The prospective study was done to allocate drug costs to different functional units of the AHC. This involved a systematic sample of 10% of all prescriptions over a one week period in September 1990. All items dispensed were recorded. This information was then used to apportion the total drug cost from accounting records to the respective clinic sections. It was found that, the drug costs increased at a rate higher than for the general expenditure budget. The drug cost per script per department varied from Rs.43 for patients attending the diabetic clinic to Rs.60 for antenatal care patients. In general, female consultations at the adult outpatient department (AOPD) were more expensive than males and adults more than pediatrics. They pointed out that the longest share of drug costs went to adult female patients in AOPD and the smallest share went to preventive and primitive care services. The study shows that drugs costs were significant contributors to the level of (PHC) expenditure. They concluded that in communities similar to Alexandra it would be possible to provide primary healthcare at about 15 percent of the amount being spent on Pharmaceuticals.

A.Valli, P. DE, L. G.M. Ferrinho and J Broomberg (1991) made a comprehensive examination of the costs of providing patient care at the AHC (Alexandra Health centre) and to extract the relative costs of services provided by various units and to different patient categories. Data was collected on both capital and running costs and on utilization of services for the financial year ending March 1990. The data was collect from routinely collected statistics in different sections of the clinic, the accounting records and staff duty rosters. A prospective study was also done to collect information to apportion the costs and to calculate the costs of a prescription. The audited operating expenditure, at AHC for the 1990 financial year was Rs.3.9 million, or Rs.4.45 million with donations (mainly drugs and staff). Of the total costs, 63 percent went to staff, 16 percent to drugs and supplies, 9 percent to buildings, furniture and transport, 3 percent to laboratory services, 2 percent to security and 8 percent to other items. It was further found that the outpatient department accounted for 57 percent of the expenditure; the 24 hour unit, 37 percent and the outreach section, 6 percent. It was found that of the total cost, 66 percent went to curative services, 32 percent to preventive and primitive (including 13 percent on maternity costs) services, and 2 percent to rehabilitation services.

Mills A.J. (1993) estimated the cost of providing district health services in Malawi. It was found that there is scope for redistribution of resources in district wise by proper cost analysis, cost methodology, better drug purchasing, stock control, distribution and prescribing medicines. There was scope for economics in some hospitals, particularly for food purchasing and vehicle running costs. A group of district hospitals in Malawi were randomly selected in terms of size, services offered, staffing, age of buildings, and geographical location. It was found that a low proportion of district recurrent costs was absorbed by salaries and wages (27-39%). He found that the overall unit costs per out patient, per inpatient and per inpatient-day give a reasonable indication of the relative costliness of different hospitals. There are no adequate facilities for outdoor and indoor patients. This is particularly important because of the variations in different hospitals. The major problem was staff time. The problems identified in the hospitals are due to organizational weaknesses, particularly in relation to the pharmacy, supplies and transport, etc. Further it was noted that the extent and frequency of utilization of these

facilities is considerably low due to shortage of health personnel and medicines and poor quality of services.

Samir Zaman (1993) estimated the actual cost of a service delivered by each medical department of the hospital. The data was collected through a step-down method. This method is a more advanced cost-finding technique, because it involves the distribution of costs from the overheads departments to other departments and, finally, to the intermediate departments. The major categories of cost were examined to estimate the total expenditure of the hospitals, personnel, utilities and materials and supplies. He found that overhead, intermediate service and final service departments account for 11, 41 and 48 percent of the total costs respectively. Personnel costs also were found to different substantially across departments.

J Broomberg (1993) used direct accounting method to determine the full range of direct and indirect costs of the delivering of all health services at Diepkloof Community Health, Soweto. Indirect costs were those costs that were shared by DK and some or all of the other CHCs. Both capital and recurrent costs were included in the calculation of both indirect and direct costs. The statistics compiled daily by the CHC staff were used. The average cost per unit of output in each clinical section was then calculated by dividing the total costs of the section by the total number of outputs delivered by the section during that month. The study found that there is excess capacity in the administrative and in several of the clinical area of this community health Centre. It was found that the average cost per service could be reduced in several areas and certain services, such as home visits, are particularly expensive and require careful evaluation.

A study was done by Dey and Padhy, (1995) in 8 PHCs and 145 sub-centres from four states, namely, Uttar Pradesh, Orissa, Gujarat and Maharashtra during 1989-90. They have examined the distribution of PHC expenditure among four Direct Programmes, namely, curative care, family planning, MCH and other programmes. They found that the average annual expenditure per PHC as Rs. 1.673 million. The maximum share of total expenditure was taken by the family planning programme (34 percent) followed by the

MCH programme (30 percent). Curative care and other programmes accounted almost equal percentage of total expenditure (18 each). With regard to component specific expenditure, the study shows that 81% of the total expenditure was spent on staff followed by supplies (12%), capital (5%) and other costs (2%). This is also true for all the four programme specific expenditure. A major share of the total expenditure on capital resources was taken by MCH programme (42%) followed by FP programme (27%). Similarly, 34 % of the total expenditure incurred on staff went for FP programme followed by 29 % for MCH. Maximum share of expenditure on supplies was taken by FP programme (30%) and curative care (26%) services.

Resource specific expenditure shows that salary accounted for maximum share (71 %) of the total expenditure followed by drugs (7%) and incentives (6%).Salary had taken major share in all the four programmes. Other resources which accounted for relatively more expenditure were drugs (9%) in FP programme, vaccines (10%) and honoraria (7%) in MCH programme and drugs (5%) in other programme. General operations and maintenance cost hardly varied between 1 to 2 percent in all the four programme categories. It was observed that maximum share of the expenditure on all capital resources was consumed by MCH programme followed by the FP Programme. About 60 % of the expenditure on salary was for performing MCH and FP services.

On average, an expenditure of Rs. 16.91 was incurred per person on primary health care services by each of the PHCs. FP and MCH programmes together consumed Rs.10.81 and the remaining two programmes accounted Rs.6.10. Further, out of Rs. 16.91, Rs. 13.70 was spent for paying staff salaries, incentives etc. Only Rs. 2.08 was spent for drugs and other supplies, and Rs.0.78 for capital resources. Programme specific expenditure for per unit service output shows Rs.351.66 was the expenditure per FP beneficiary (Rs. 685.15 per equivalent sterilization). Per beneficiary (contact) the cost incurred on MCH care (excluding immunization) was Rs.16.61 and that on curative care was Rs.14.05. The expenditure incurred for immunization service was Rs. 56.15 per dose/injection.

Steffen Flessa (1998) found that the existing accounting systems of most hospitals in developing countries do not provide decision makers with the cost data, and that the costs are generally underestimated. A survey on costing of health services of 16 hospitals of ELCT (Evangelical Lutheran Church in Tanzania) was done to look into the major problems being faced. He found that thought the cash books were found to be complete and reliable; none of the hospitals was using a fixed assets register, or proper stores records. The major problems found were: lack of data, almost complete unreliability of the available data and the absence of latest data. The major finding was that the costs of providing adequate services were much higher than expected. He concluded that even the best improvement of technical efficiency of the hospital based healthcare services will not safeguard the survival of the LC in Tanzania.

Dr. Dileep Mavalankar (1999) examined the allocation of medicines at the PHC level and medicine expenditures for government employees in some organizations in three relatively well developed states and two under-developed states in India. The information on medicine budget for PHCs in Gujarat, Maharashtra, and Himachal Pradesh was obtained from state level offices, while for MP; it was from PHC medical officers. The study found that the allocation for medicines in PHC was ranging Rs.0.17 to Rs.3.2 per capita in various states. In comparison, the government organizations spend between Rs.62 to Rs.1000 per capita per year on medicines for their employees in economically well-developed state. He found that inappropriate medicines were purchased. There was no systematic analysis of disease pattern before the purchase. The second major problem was the purchasing procedure was cheapest quoted rate for medicines and without any reasonable quality control mechanism in place. One of the important reasons for loss of credibility of the government health services is the lack of adequate medicines in the PHC system at almost all levels. Staff salaries are regularly updated and adjusted for inflation, but medicine budgets are rarely increased in the PHC system and, hence, people have to purchase medicines from outside. Low allocation for medicines is a major problem of the government health policy. He suggested that the government should plan to increase the medicine allocation substantially, at least 5 to 10 times in the next 3-5 years, if it is committed to health of the people, especially the poor.

Dwayne A, Banks, Ayoub S.K. AS-Sayaideh (2002) have estimated that the cost of producing hospital services at Princess Raya Hospital. The study found that each hospital has shortage of staff, which was attributed to the highly centralized MoH procurement and supply process. Secondly, labour costs represent 40% of total operating costs of these hospitals

Ad La Foucade, E Scott and K. Theodore (2005) have estimated both total and average unit cost, and the average unit costs for service provision were obtained by dividing the estimated full costs by the activity levels for each cost by using the step-down accounting method. They found that the cost per patient per day spent on the maternity ward is 57.4 percent higher than that for the surgical ward.

Taghreed Adam and Steeve Ebener, (2008) have measured the impact of patient load on the cost per visit at primary health care facilities and the extent to which this would influence the cost estimates and financial requirement - to scale up the interventions. They found that the cost of an outpatient visit is very sensitive to the number of patient seen by the providers each day at the primary care facilities. Multivariate regression analysis was used to find the determinants of variability in unit costs using data for 44 countries with a total of 1984 observations. It was found that a 1% increase in patient through-put on an average resulted in a 27% reduction in the cost per visit, which could lead to a difference of up to $30 in the observed costs of an outpatient visit at primary facilities in the same setting

Tsolmongerel Tsilaajav (2009) estimated the unit costs of some key hospital services at selected hospitals in Philippines. He employed two types of costing methodologies for validating the results and also obtained patient/disease level cost data. Data was collected on clinical, financial and administrative activities of each hospital. He found that on average, unit costs per inpatient discharge at tertiary public hospitals was 9,499 p for medical ward, 9,180 p for outpatient and gynecologist ward, 8,746 p for pediatric ward and 11,447 p for surgery ward respectively.

Neeta Mathur and Geeta Kedia (2010) examined the unit cost of curative care provided at PHCs. Data was collected from PHCs through two types of schedules: daily time schedule and PHC/SC (Sub-) information schedule. The cost were non-recurrent (Capital resources vehicles, buildings, etc.) and recurrent resources (Salaries, drugs, vaccines, maintenances, etc.). They found that there is a variation in unit cost curative care provided in different PHCs. It was lowest (Rs, 29.26) for the Sanathal PHC and highest (Rs. 88.26) for the Uperdal PHC, followed by the Nandej PHC with Rs.40.88, implying severe underutilization of curative care at the Uperdal PHC. The expenditure on the staff constituted most of the total expenditure.

Mustafa Z Younis, and Samer Jaber (2012) have estimated the unit cost of primary and secondary programmes, and departments. The data was collected by retrospective study. Secondary data on Ministry of Health (MoH) hospitals and PHCs was used to identify and evaluate outpatient and per patient costs. The cost of the overhead departments was distributed to the intermediate-service and final-service departments through a step down method. It involves the distribution of costs from the overhead department. In this study, all operating costs were assigned and allocated to the departments at Ministry of Health (MOH) hospitals and Primary Health s (PHCs). It was found that the inpatient costs contributed about 75% of all costs, whereas outpatient services contributed the remaining 25% of the total costs. The average cost per visit was $ 13.00 for the outpatient departments.

Abdullah I. AI-Sharif (2012) examined the patterns and the cost of the drugs dispensed to the visitors who utilized the primary health care services of Asser region of Saudi Arabia during the summer season of 1998. Data was collected from 96327 patients. Forms were distributed to those attended PHCs in Asser region, 17% of the forms were not evaluated. The cost of the drugs was calculated according to the actual price list provided by the medical supply department. The total cost of the dispensed drugs was estimated at 190533 SR (50808$). Out of this, about 20% dispensed was for summer visitors who had utilized the PHC services in the Asser region, Antibiotics and painkillers cost 42% and 21% of the total cost respectively. He found that there was a dramatic

increase in the utilization of primary health care services by these visitors, who attended the clinics for curative purposes and were prescribed medicines. Generally, the cost of the drugs for summer visitors in Asser region was 20.5% of the total drug cost. Drug costs in this study were based on actual prices.

Shankar Prinja and Pankaj Bahuguna, (2012) was developed to estimate the recurrent and annual costs for providing health services through a mix of public and private providers in the city of Chandigarh, in India. In this study, National Sample Survey data was used to estimate the disease burden. In addition, morbidity and treatment data was collected from two secondary and two tertiary care hospitals. The unit cost of treatment was estimated from the published literature. They collected data on standard treatment protocols and cost of care from the local health providers. They estimated that the cost of universal health care delivery through the existing mix of public and private health institutions. It was found that using generic drugs INR 6852 (USD 152) was required to be spent per household (INR 1713 per capita per year) in India and 3.8% (2.1%-6.8%) of the GDP for universal health care services. This cost would be 24% higher, if branded drugs are used.

Ezenduka O. Ichoku H and Ochorma O. (2012) estimated the cost of psychiatric hospital services at a public health facility in Nigeria. The study was exploratory and analytical. A standard costing methodology, based on ingredient approach was adopted, combining the top-down method with the step down-approach to allocate resources (overhead and indirect costs) to the final cost of services. It also looked into the resource input in all departments, averaging 80% of the total hospital cost, reflecting the mix of capital and recurrent inputs. Cost per inpatient day, was estimated at $ 56 which was equivalent to 1.4 times the cost per outpatient visit ($41). Cost per emergency visit was about two times the cost per outpatient visit. The male ward was found to be the most expensive. They concluded that the hospital costs were driven by personnel, which reflected the mix of inputs that relied most on technical manpower. The unit cost estimates were found to be significantly higher than the upper limit range for low income countries based on the WHO choice estimates. They also found scope for improving

efficiency of resource use, given the high proportion of fixed costs which indicates excess capacity.

The above literature was collected from academic and research journals and Google search. Most of the studies reviewed above on costing data of PHCs used cost accounting method and same is followed in the present research.

1.3. Research gaps

Information on the costs of health services in less developed countries had been extensively reviewed by Robertson, and only one large-scale study was undertaken. Comparisons within specific countries suggest that costs vary for similar facilities. Small studies of a few facilities are likely to give misleading, or unrepresentative, results. Large samples are, therefore, required to provide representative data on cost levels and variations for policy-making and planning purposes.

There are very few studies on cost analysis at the PHC level. These cost studies found that there are wide variations in the unit cost from one place to another for primary health centres. This variation itself highlights the need for more cost analysis studies in different geographical areas. Cost studies of PHCs will give an idea of unit cost as well as relative costs of different services provided by them. These studies help in planning by providing basis for costing of similar projects and in administration by providing a means for effective cost control and coordination.

There is limited availability of literature on costs spent per service delivery at level of primary health centers and the present literature is more than a decade old which limits its application. Most of the health costing studies in India highlight the cost of delivering particular services like pediatric care, referral transport, newborn care in district hospitals for specific diseases like respiratory diseases or typhoid and service provider like at primary health or district hospital.

Very little attention seems to have been paid to study the economic cost of primary health care services in India. No reliable data was available to know what proportion of the

resources (both manpower and material) is spent on different services like Family Planning, MCH, Curative services, etc. Also what proportion of the total expenditure is incurred on salary or supplies and the inputs on which the expenditure is maximum. This type of information will be helpful for proper planning and effective management of limited resources available in the PHCs.

1.4 Conceptual frame work

Health care costs are increasing but the resources available are limited for health sector to meet the increasing demand for services. The real challenge is how to allocate the scarce resources to different services. The branch of economics that deals with the normative economics and the efficiency of economic system as a whole are called Welfare Economics. It evaluates the relative desirability of economic alternatives with respect to society as a whole from an ethical or value judgment perspective. Thus it takes into consideration the societal perspective.

Economic evaluation will help to allocate resources. The real purpose of economic evaluation is to improve efficiency; the way inputs (money, labor, capital etc.) can be converted into outputs (saving life, health gain, improving quality of life, etc.). According to Drummond et al (1977) economic evaluation is the comparative analysis of alternative courses of action in terms of both their costs and consequences. An economic approach can be considered a full evaluation technique when both costs and consequences of an intervention of a project are considered and also comparative.

Among several methods of economic evaluation of health intervention**,** Cost Effective Analysis (CEA) is one method. CEA is a method for comparing the benefits and costs of a medical intervention in order to determine whether it is worth doing. CEA can be used to compare projects whose effects are on health only. CEA measures the benefits in terms of some standard clinical outcome/ health outcome or effectiveness such as number of family planning sterilizations done, number of children fully immunized, number of institutional deliveries, etc., in the target group.

1.5. Objectives of the Study

1. To understand the functioning of the Primary Health centeres in the study area,
2. To examine the distribution pattern of the expenditure of the PHCs by functions and components,
3. To estimate the per unit cost of all activities, and also the per capita expenditure on each of these activities,
4. To explore the relationship between expenditure of the PHC on different services and output indicators of different services.

1.6. Significance of the study

It is the responsibility of Government to ensure universal access to health care for its citizens. From the perspective of planners and policy makers it is important to know how much cost is being incurred by the government per unit service delivered. This can also be used in terms of equity research, i.e. benefit incidence analysis, and determining allocative efficiency of Government health care services. In this study the annual cost for delivering different services at the PHC level in public sector. Secondly, we assessed unit cost of specific services delivered at PHCs.

The recent incidents in Gorakhpur and earlier ones in other parts of the country have served as a wake-up call for all right-thinking persons to ponder over the real face of India's healthcare system. On one side, we have super-specialty hospitals (mostly in the corporate sector) which draw a host of 'medical tourists' from abroad, as also many of our political bigwigs who feel more secure here than the government hospitals. On the other, there is "low resourced and poorly performing Primary Healthcare s (PHCs) (Dr. K. Srinath Reddy, Increase Public Spending on Healthcare, ***Reader's Digest***, October 2017, p 28). Considering the vast size of the country and limitations of time and

resources, the scope of the study is restricted to nine PHCs in Medak district of united Andhra Pradesh. It was felt that since a PHC is like the first port of call for the health needs of most of the rural poor, a detailed study on it would help in providing an idea about the working of the public healthcare system operating in rural areas and the cost incurred by the government to provide services at the PHC level.

1.7. Chapterisation of the thesis

The thesis has been divided into 7 chapters. ***First*** chapter starts with introduction to the problem, review of literature, identification of research gaps, the objectives and significance of the study. The ***second*** chapter is Methodology adopted for the study, in the selection of the PHCs, sources of data collection, plan of analysis and the detailed method of calculation, percapita expenditure of different services and unit cost of provision different services in PHCs. ***Third*** chapter gives the detailed profile of the selected PHCs in Medak district. ***Fourth*** chapter examines the factors affecting the performance of PHCs. ***Fifth*** chapter examined the Distribution of Expenditure of PHCs on Various Programmes and Components for 2011-14. Chapter ***six*** brings out the estimation of the cost per unit of services of various programmes at PHCs, and time allocation of PHCs, drug expenditure, and percentage of vacancies and the output indicators of different services and per-capita expenditure of different services of PHCs. If further brings out rank correlation between the expenditure. The ***Seventh*** chapter brings out the Summary and Policy implications of the thesis.

CHAPTER 2

METHODOLOGY

2.1. Introduction

For achieving the objectives mentioned in introduction chapter Primary Health Centre (PHC) is identified as service delivery point for Primary healthcare. Each PHC caters services to a population of 30,000 in rural areas. PHC is a nodal point which provides Maternal Child Health (MCH), Family Planning (FP), Curative Care (CC) and Preventive Care (PC) for all Maternal Health Programmes. Each PHC is divided into five to six sub centres and each sub-centre will cater services to 5000 population.

2.2. Location of the Study Area

The study was undertaken in United Andhra Pradesh State. Data was collected from nine PHCs from the rural areas of Medak district. Data from PHCs personnel with regard to time allocation on different programmes and also cost data was collected from PHCs and the District Medical and Health Office (DM&HO) records at district Headquarters Sangareddy. Data was collected from nine PHCs in Medak rural Mandal. This data was analyzed from the nine PHCs to calculate the unit costs of major health programmes provided by the PHCs. These PHCs were purposively selected for convenience. Information on cost of the equipment, furniture, staff salaries, drugs, maintenance, etc., was collected from the nine PHCs and all the 85 sub-centres under the jurisdiction of these selected PHCs for 2013-14. Also Data expenditures were collected for 2011-12, 2012-13 and 2013-14 financial years.

2.3. Selection of the study area

For fulfilling the objectives the appropriate methodology was adopted in this thesis. For the present study, nine PHCs and 85 sub centres were selected from Medak district of United Andhra Pradesh. These centres were selected for the study purposively for

convenience. Data was collected from secondary and primary sources during October 2013 to February 2014. This study utilized a variety of methods for collecting data from district, PHCs and Sub-Centres depending upon the nature, type and quality and quantity of data requirements, in keeping with the objectives of the study.

2.4. Operational framework for calculating Costs and Benefits in economic evaluation

Cost refers to the resources which are spent in carrying out health activities are providing health services. Benefit is the health effect of the inputs. Costs can be defined in many ways -- direct, indirect, and intangible costs. Direct costs are immediately associated with an intervention such as staff time, consumables, etc., Indirect costs must include a patient's loss of work due to treatment. Intangible costs may be like pain, anxiety and quality. All type of economic evaluation measure costs in monetary units. In the present context, only direct costs are concerned.

One needs to estimate the number of costs required to treat a patient when he/she comes to the primary health centre or sub centre for treatment, and also costs involved in field work and extension activities. For calculating the costs different methods can be used - accounting or budget data or estimates of cost functions. Here cost accounting method is used. Costs of any particular services is calculated on the basis of a detailed assessment of the use of resources by each patient such as time of staff members, medicines, capital and recurring, etc., A full list of resources used for services was collected from secondary and primary resources, such as time spent by staff members, capital and recurring costs and drug cost, etc.,

The benefits are measured as the output measures of different functions/services at the PHC and sub centre level. For example for Family planning sterilizations done, for MCH, number of children fully immunized, number of ANC visits, number of institutional deliveries, and number of PNC visits etc.,in the target group. Then unit cost for each function/services of the PHC was calculated by dividing the total costs incurred for that

function with the output indicator of that function. The estimate of unit cost of different functions is useful for planning and allocating of resources in future.

Cost data can be used 1) For planning and management in assessment of operational efficiency, 2. To determine the resource management requirements for alternatives planning options, and 3) To find out different alternative financing mechanisms.

2.5. Method of analysis

There are 3 different methods for cost analysis

2.5.1. Accounting based cost studies

It can be applied to a single hospital. It involves a detailed examination of hospital accounts, staffing patterns and admissions. It is also possible although somewhat less accurate, to derive hospital accounting costs by using aggregate budget or expenditure data of government. Here average unit cost can be assessed.

2.5.2. Statistical method

Less detailed data is required in this method, but it requires observations of costs and service use for many hospitals.

2.5.3. Economic cost method

The analysis of cost lines provides a framework for analysing the relationships between inputs to health care and the costs.

In the present analysis accounting based cost analysis was used.

2.6. Sources of Data Collection

Data was collected from secondary and primary sources.

Expenditure on costs data of the PHCs on activities/functions of PHC staff was collected for three financial years, i.e., 2011-12 to 2013-14. Also distribution of expenditure on the

various functions/activities of PHCs was collected from the PHC records and DM&HO Office.

Both Secondary and Primary sources were used for collecting data. The secondary sources are basic records about staff position, medicine records, ANC cards (MCH), Equipment records, Immunization reports, and sub centre level reports, meeting records, and staff attendance were also used for analysis. The secondary sources included: various government reports, documents from the district DM and HO, PHCs and sub-centres**.** Primary data was obtained using interview schedule and personal interactions from doctors, auxiliary nurse, staff nurse, pharmacists and other staff members. A Questionnaire was designed to record the expenditure of the PHCs. The areas covered included: 1) salaries of staff, 2) details of equipment, furniture, 3) medicines and other supplies and 4) utility bills in the nine PHCs.

Two types of costs, capital and recurring costs were examined in this analysis: (1) Capital Costs: The capital cost was considered important from a long term investment perspective of primary health care in PHCs. (Physical infrastructure: Repair/Maintenance work, patch work, furniture, and equipment), and (2) Recurrent costs: Recurring cost is relevant to annual budgeting of Primary Health Centre facilities. which included (a) Operational and maintenance and repair costs, (b) salaries and allowances of the staff, (c) food for the patients (d) medicines, vaccines, drugs, contraceptives, (e) stationary, electricity, water, telephone charges, cleaning, and general administrative expenses, (f) IEC activities like film shows, cultural shows, and costs on major repairs etc.,

Primary data was collected through personal observation and an informal discussion with the staff members and by following relevant records, an analysis was made of the functions services of the primary health centres under the study. The following areas were specifically studied:

a. Patient Care: This is the primary responsibility of the medical centre.

b. Nursing Service: This function includes nursing care and management. The nurses closely interact with patients in administering the medicines, assist in the necessary surgery procedures; monitor the records regarding the patients, etc.

c. Medical Services: These include: supervision of patient's health condition, extending the necessary support depending on the patient's health status as demanded.

The records examined included: work statements, account books, list of medicines and equipment, attendance registers, and medical supplies.

2.7. Main functions of the Primary Health Centre

In the present analysis accounting based cost analysis was used to distribute the resources at the PHC level. Cost accounting method was used to collect data from all the 9 PHCs, from their records for 2011-12, 2012-13 and 2013-14. From the cost data major health functions of PHCs. were grouped into five categories. The five functions are as follows:

From the cost data into five major functions health functions of PHCs, they are:

(1) **Illness care (ILL):** This includes the total number of beneficiaries, who were provided services at the OPD of the particular PHC/SC.

(2) **Maternal Child Health (MCH):** Activities under it were categorised into two groups, as follows:

(a) **MCH care (excluding Immunisation service):** This included Anti-Natal Care (ANC) Post-Natal Care, Deliveries conducted, baby checkups, etc.

(b) **Immunization services:** These included TT to pregnant mothers, BCG, DPT, TT Polio given to children. The indicator for the immunization was the number of injections/doses administered in the accounting year.

(3**) Family Planning (FP):** This was measured by two ways: (i) the total number of beneficiaries of various FP methods, and (ii) converting these figures to sterilisation equalization.

(4**) Communicable Disease Control (CDC):** This took into account all activities involving mass communicable disease control and

(5) **Environmental sanitation (ENV**)**:** This included all activities related to community Environmental sanitation.

Within each of these five functions, a further sub division was made based on the type of activity. These are three activities. They are:

(a) Direct delivery of services: Curative Care, FP, MCH, and other programmes.

(b) Administrative, or Supportive Activities: These involved the work with records and reports: preparation of supplies; maintenance and cleaning; liaison with health and community officials; travel, transit, and waiting; routine administrative discussions; ill- defined technical work related to specific services; and staff communication, supervision, and education.

(c) Non productive or personal activities: This covered the systematic observation and recording of the activities of one or more individuals, carried out at predetermined and preferable random time intervals.

The amount of time spent on these activities by each PHC staff was collected by interview schedule, they time allocation by each person on these five functions in arrived at. The interview schedule consists of personal interactions from doctors, auxiliary nurse, staff nurse, pharmacists and other staff members.

A Questionnaire was designed to record the expenditure of the PHCs.

- The areas covered included
- 1) salaries of staff
- 2) Equipment, furniture
- 3) Medicines and other supplies
- 4) Utility bills in the nine PHCs
- Operations and Maintenance of Equipment
- Drugs

- Other general consumables like disinfectants, soaps, food, laundry etc.,
- Time spent by the Staff of PHC in direct services/ programmes

2.8. Secondary data

- The secondary sources are basic records about
- Staff position
- Medicine records,
- ANC cards (MCH),
- Equipment records
- Immunisation reports, and
- Sub centre level reports
- Meeting records
- Staff attendance
- HDS Funds Register
- Movement Register
- Duty Roster
- Drugs watch register

2.9. Plan of Analysis

Simple percentages were used to describe the distribution of cost/expenditure data into different services of the PHCs.

Some composite indices were constructed for the output variables of different services for calculating unit costs. For output indicators only three functions were considered, i.e., Illness, MCH and FP because for CDC and ENV data on output indicators was not available. The output indicators for MCH are ANC, institutional deliveries and postnatal care. For these three activities a combined measure was calculated by giving the output figures of different programme categories considered for estimating cost per unit output are given below:

i) Curative care: the total number of patients who were provided services at the OPD of PHC/SC/Dispensary and inpatients.

ii) Family planning: Family planning output was measured by two ways, the total number of acceptors of various FP methods in the accounting year, and the other is by estimating equivalent sterilization. For computing equivalent sterilization, 3 IUD acceptors or 9 oral pill users of 18 condom users were considered as 1 sterilization acceptor second indicator is used for analysis.

iii) MCH programme: For measuring MCH programme output, all activities under it were made into two groups. MCH care included Anti –Natal care (ANC), Post natal care (PNC),deliveries conducted ,baby check up/weighting etc. 2) Immunization services included TT to pregnant mothers, BCG, DPT, Polio, measles, TT, DT etc given to children. The units of MCH care (excluding immunization) was taken as number of beneficiaries contacts and for immunization service as number of injections/doses administered in the accounting year.

For MCH, the outcome indicators are given Weights as: ANC (0.2) delivery institutional (0.6), and PNC (0.2) and the weighted outcome indicator for MCH are obtained + fully immunized (1.0).

Rank correlation is applied to find the correlation between expenditure of various functions and the outcome various services of in the current analysis rank correlation is calculated for each function of the PHCs. For example for illness, the outcome variables are inpatients at PHC level, and out patients (new cases) and old cases at PHC level and outpatients at the sub-centre level. The other variables are expenditure for illness, per centage of vacancies in the PHC.

For MCH the outcome indicators are given weights as: ANC (0.2) delivery institutional (0.6), and PNC (0.2) and the weighted outcome indicator for MCH is obtained + fully immunization.

For Family Planning, Sterilization equivalents are calculated by converting 3 IUD = 1 Sterilization, 9 Oral Pills = 1 Sterilization, and (18 Condoms) = 1 Sterilization.

Per capita expenditure was calculated for all activities combined based on population of the PHC. The expenditure of different functions include salary, capital (excluding building, vehicles, and large equipment), recurring expenditure on drugs expenditure on operational and maintenance, major repairs, etc.,

2.10. Limitation of the study

One constraint faced by the researcher was the limited time available for the study. Poor road connectivity and inadequate communication facilities were also challenges faced by the researcher. Thus it was not very convenient for the researcher to reach the PHCs, some of which were located in remote areas. Illiteracy of many of the respondents was another challenge faced during the study. Improper and inadequate maintenance of records by some of the PHCs made it difficult for the researcher to easily locate information on items like, cost of building of the PHCs, details on equipment and furniture records on such occasions, the researcher had to physically ascertain such figures from the PHCs. Another issue faced was ascertaining the current prices of the equipments.

Considering the vast size of the country and limitations of time and resources, the scope of the study is restricted to nine PHCs in Medak district of United Andhra Pradesh. It was felt that since a PHC is like the first port of call for the health needs of most of the rural poor, a detailed study on it would help in providing an idea about the working of the public healthcare system operating in rural areas and the cost incurred by the government to provide services at the PHC level.

CHAPTER 3

Profile of Medak District and Selected Primary Health Centres

This chapter is divided into 3 sections. Section A gives profile of Medak district, Section B gives Profile of Selected Mandals and Section C gives profiles of selected Primary health centre.

Section: A: Profile of Medak district

3. 1. Introduction

This chapter provides the district profile of Medak. In which provides the history of the district and physical issues, such as hills, rainfall, climate, rivers flora and fauna etc. Subsequently, district at a glance has been presented with a view to understand general features at once. To understand the decadal growth rate of the population, variations in the density of population of urban and rural, male and female population, Scheduled Castes/Scheduled Tribes population and rate of literacy etc, a summary of census statistics 1991-2011 has been presented. Variations in the population during the period 1901 to 2011 are also presented with a view to take note of increase as well as decrease in population. An attempt is also made in this chapter to provide the information at mandal level, like mandal wise male-female population, area, density of population, number of towns and villages etc. The main focus of the chapter is to provide the general characteristics of the Medak district in general and health profile of the district in particular. It emphasizes on the provision of health services at the district level.

3.2. Salient features of the District

Name of the district is originated from 'METHUKU SEEMA' which means rice bowl, later on changed into METHUKU because of the increase in the fine and coarse rice availability in this area (GoAP, Gazeteer 2011). Medak district lies adjacent to Hyderabad, the distance between Hyderabad and Medak district is 96 kms. Hill fort and Medak Church are the two important and interesting places in the town. The fort has been constructed by the Kakathiya Kings and the Medak church is one of the three big churches in south India. There is a place called “Yedupayala” to the South-East of Medak

town, where seven tributaries of the Manjeera join and flow in unison. It attracts one lakhs piligrims every year on Mahashivarathri day.

Table 3.1: - Geographical Features of Medak (As on 31.03.2015)

Latitude	$17^0 – 27^0$ and $18^0 – 19^0$ N
Langitude	$77^0 – 28^0$ and $79^0 – 10^0$ E
Geographical Area	9699 Sq. kms
Annual Rainfall	868 mm
Revenue Divisions	3
Revenue Mandals	46
Towns	11
Municipalities	7
Revenue villages	1231
Gram Panchayats	1066

Source: Statistical Year book, 2015, Government of Telangana.

District lies between $77^{0-}28^0$ and $79^0 – 10^0$ of Eastern longitude and $17^0 – 27^0$ and $18^0 – 19^0$ of Northern latitude and it constitutes with area of 9699 sq.kms. Medak district bounded by north of Karimnagar and Nizamabad districts, Warangal and Nalgonda districts on the east, Bidar district of Karnataka state on the west and Ranga Reddy district on the south. District has been divided in to three revenue divisions, which are spread over into 46 mandals. There are 7 municipalities, 1267 revenue villages and 1059 Gram Panchayats are functioning in the district. The climate of the district can be divided as tropical to sub tropical and it generally experiences the dry climate. The minimum temperature during the winter is $9^0 – 10^0$ C and maximum temperature in summer is 43^0 C. The districts average annual rainfall is 868.3 mm and 45 per cent of rainfall amounts between June to September i.e., monsoon season.

The soil type of the district is red mainly comprises with the loamy sands, sandy loams and sandy clay loams and it was predominante in Zahirabad taluk. The black soil found in Sangareddy, Andole, Narasapur and Narayanakhed taluks. There is no big river water source for the district; the only source of water is manjeera which is a branch river of

Godavari. River manjeera flows from Bidar district to Medak district in the south – eastern direction. It flows for about 96 kms. In the north-western taluks of Zahirabad, Narayanakhed, Sangareddy and Narsapur. Other important source of water for the district is Pasupuyeru and the Kudlair. Pasupuyeru is a tributary of the Manjeera.

3.3 Demographic Characteristics

Table 3.2: Demographic Details of Medak District

Particulars	2011	2001
Total Population	30.33 lakhs	26.70 lakhs
Male	15.23 lakhs	13.52 lakhs
Female	15.23 lakhs	13.17 lakhs
Rural	23.06 lakhs	22.86
Urban	7.27 lakhs	3.83
Density of Population	313 per Sq.km	275 per sq.km
S.C population	5.37 lakhs	4.69 lakhs
S.T Population	1.68 lakhs	1.34 lakhs
% of S.C to Total Population	16.31 %	17.58
% of S.T to Total population	5.24 %	5.04
Total Literates	16.37 lakhs	11.71 lakhs
Male literates	9.43 lakhs	7.38 lakhs
Female literates	6.83 lakhs	4.32 lakhs
% of total literacy	61.42 %	51.65 %
% of Male literacy	71.43 %	64.33 %
% of Female Literacy	51.13 %	38.66 %
Slum Population in Urban area	1.53 Lakhs	0.63 lakhs
Slum Households	0.32 lakhs	
Total Slums (Number)	109	

Source: Census 2011, Government of India.

Table 3.2 presents the demographic details of the Medak district for the year 2011. It shows that the total population of the district recorded as 30.33 lakhs; out of total population 15.23 and 15.23 lakhs were male and female population respectively. According to the 2011 census the total rural population is 23.06 lakhs and urban population is 7.27 lakhs and the density of population is 313 per sq.km. Scheduled caste population is 5.37 lakhs and scheduled tribe population is 1.68 lakhs. The percentage of

SC and ST population to the total population is 16.31% and 5.24 % respectively. The total literates in the district are 16.37 lakhs out of which male literates are 9.43 lakhs and female literates are 6.84 lakhs. A significant increase in the literacy rate has been noticed in the district during 2001-2011. Total literacy rate in the district is 61.42 %, male literacy rate is 71.43 per cent and female literacy rate is 51.13 per cent.

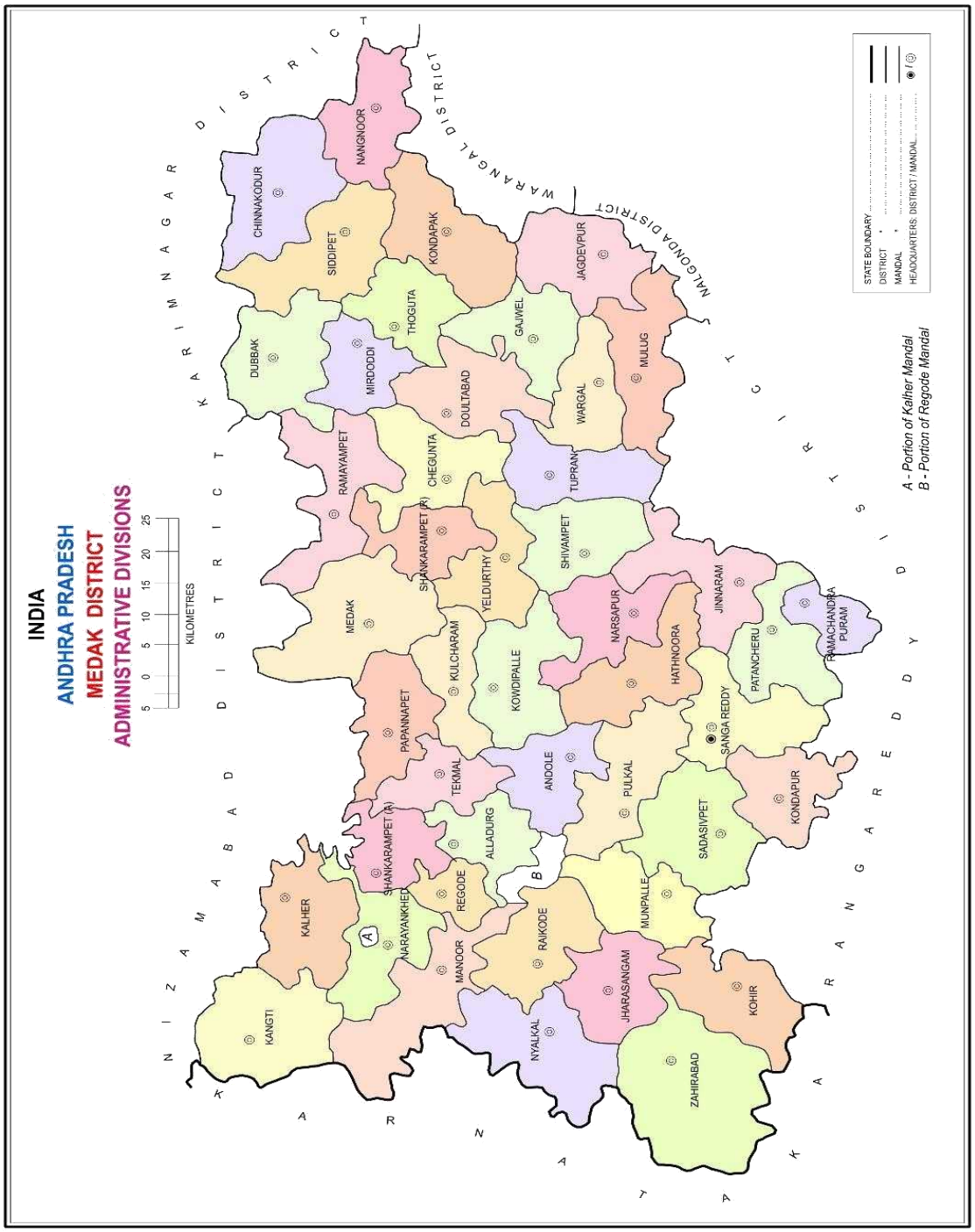
Table 3.3: Variations in Population growth of Medak District During 1901-2011

Year	Total Population	Percentage of population	Density of Population (per Sq.KM)
1901	556094	0	57
1911	806812	45	83
1921	782258	- 3.04	81
1931	913737	16.81	94
1941	1002176	9.68	103
1951	1109761	11.2	115
1961	1227361	10.59	127
1971	1467944	19.1	151
1981	1807139	23.11	186
1991	2269800	25.6	234
2001	2670097	17.64	275
2011	3033288	13.6	313

Source: Census 2011, Government of India

Table 3.3 presents the variations in the population growth of Medak district during the period 1901 to 2011. It shows that decadal population increasing trend from 1901 to 2011except the decade 1911-1921, during this period the population declined to 3.04 per cent. The district population increased from 10.5 per cent in 1961 to 19.1 per cent in 1971. There was a record growth in the population of 339195 (23.1 %) during the decade 1971-1981. During 1981 to 2001normal increase has been recorded. There is a decrease in the population growth from 400297 (17.6 %) in 2001 to 363191 (13.6%) in 2011. Density of population in the district increased from 57 in 1901 to 313 in 2011 per sq.km.

Map 3 1: Map of Medak District



3.4. Health Infrastructure of the District

Health care services of state plays key role in growth and development of entire state. The district has lowest rank in the Human Development Index. It declined from 9th rank in 2004-05 to last rank in 2011-12. Medak district has a strong health infrastructure and staffing, but there is no proper delivery of services. Geographical access is adequate in most areas with many PHCs receiving recent upgrades and sub-centers housed in rented buildings throughout the district.

Table 3.4: – Available different types of health Infrastructure in Medak District

Type of Health Institutes	Number of Institutions
Sub Centres	489
Primary Health Centres	69
Community Health Centres	08
Sub Divisional Hospitals	04
District Hospitals	01
ASHA (Sanctioned)	1913 (2129)
Ayurveda Hospitals (incl. Dispensaries)	11
Homeopathic Hospitals (incl. Dispensaries)	3
Unani Hospitals (incl. Dispensaries)	2
Naturopathy Hospitals (incl. Dispensaries)	1
Doctors in all Hospitals	50

Source: Rural Health Statistics- 2014-15, Ministry of Family welfare, Govt of India.

The state introduced most of the services like infrastructure strengthening or the 104 mobile services in the district as a pilot projects. It has focused on increasing ASHA and anganwadi services, community-based services are similar to other places. The state has introduced and implemented the new scheme called MAARPU, the aim of the scheme is to combine the health and nutrition services in one scheme and provide services to people. In the available health infrastructure in Medak district is given table 3.4. In health care organization, primary health centre (PHC) services to people in rural areas provide centers one PHC health services for 30,000 populations. Medak district there are 489 sub-centres, 69 Primary health centres, 08 Community Health Centres and 1 sub divisional hospital. The total doctors in all hospitals in the district are 50. The number of Ayurveda, Homeopathy, Unani and Naturopathy hospitals were 11, 3, 2 and 1 respectively.

Table 3.5 gives the list of mandals, PHCs and the number of sub centres in each PHC.

Table 3.5: Primary Health Centres and Number of Sub-centres in Medak District

S.No	Name of the Mandal	PHC Name	Number of Sub-Centres
1	Kondapur	Kondapur	9
2	Sadashivpet	Sadashivpet	2
3	Sadashivpet	Athmakur	10
4	Andole	Thalelma	13
5	Munipally	Munipally	8
6	Kulcharam	Kulcharam	4
7	Kulcharam	Rangampett	4
8	Narsapur	Reddypally	9
9	Shivampet	Shivampet	10
10	Hathnoora	Hathnoora	4
11	Hathnoora	Chintalchervu	4
12	Sangareddy	Kandi	10
13	Sangareddy	Sangareddy	7
14	Jinnaram	Gummadidala	6
15	Jinnaram	Kanukunta	3
16	Jinnaram	Jinnaram	6
17	Manoor	Manoor	6
18	Manoor	Karasguthi	4
19	Kalher	Sirgapur	5
20	Kalher	Kalher	5
21	Kangti	Kangti	8
22	Nyalkal	Nyalkal	6
23	Nyalkal	Mirzapur	6
24	Shankarampet-A	Shankarampet-A	8
25	Shankarampet-R	Shankarampet-R	8
26	Allahdurg	Allahdurg	4
27	Allahdurg	Gadipeddapur	4
28	Zaheerabad	Mogudampalli	9
29	Zaheerabad	Zaheerabad	3
30	Zaheerabad	Malchelma	5
31	Koheer	Billalpur	8
32	Koheer	Digwal	7
33	Raikode	Raikode	9
34	Jharasangam	Jharasangam	10
35	Regode	Regode	7
36	Narayankhed	Nizampet	15
37	Medak	Medak	3
38	Medak	Sardhana	14
39	Papannapet	Papannapet	8
40	Papannapet	Podchanpally	6
41	Tekmal	Tekmal	8
42	Ramayampet	D.Darmaram	13
43	Kowdipally	Kowdipally	14
44	Yeldurthy	Yeldurthy	10

45	Toopran	Toopran	10
46	Chegunta	Chegunta	8
47	Doulthabad	Indupriyal	3
48	Doulthabad	Raipole	4
49	Siddipet	Pullur	6
50	Siddipet	Siddipet-U	5
51	Siddipet	Narayan Rao Pet	7
52	Nangunoor	Nangunoor	10
53	Chinnakodur	Chinnakodur	8
54	Chinnakodur	Ibrahimnagar	4
55	Dubbak	Thimmapur	14
56	Mirdoddi	Mirdoddi	6
57	Mirdoddi	Bhoompalli	8
58	Thoguta	Thoguta	6
59	Kondapaka	Kondapaka	7
60	Kondapaka	Kukunoor Palli	6
61	Gajwel	Ahmedipur	14
62	Jagadevpur	Theegul	6
63	Jagadevpur	Jagadevpur	6
64	Mulugu	Mulugu	5
65	Mulugu	Singannagudem	5
66	Wargal	Wargal	8
67	Patancheru	Bhanur	20
68	R.C.Puram	R.C.Puram	13
69	Chegunta	Narsingi	8

Source: NRHM-HMIS Report 2013-14.

Table 3.5 provides the information of the primary health centers at mandal level and number of sub centers has each PHC. Health care services are provided to the community in the rural areas through a network of Primary Health Centres, Sub-Centres and Community Health Centres. These services were provided to the community with the support of an Auxiliary Nurse Midwife (ANM), a female paramedical worker and a male multipurpose worker MPM (M). A Lady Health Visitor (LHV) posted at PHC supervises the work of ANMs.

Table 3.6: Availability of Health infrastructure per 1000 Population

	India	Telangana	Medak
Physician per 1000 population	0.65	0.13	0.10
Beds per 1000 population	1.30	0.58	0.47
Nurse per 1000 population	1.00	0.98	N.A

Source: Rural Health Statistics of India, 2014.

Table 3.6 presents the availability of health infrastructure per 1000 population at national, state and district level. The average physician ratio per 1000 population at state level is 0.13 against 0.65 per 1000 population at all India level; it is 0.10 per 1000 population at district level. The number of beds available per 1000 population is 0.47 at district against 0.58 at state level. The number of nurses per 1000 population is 1.00 and 0.98 at all India and state level respectively. The above data indicates that the district has a poor availability of physicians and beds.

Section: B: Profile of selected Mandals in Medak district

3.5. Selected Mandals

3.5.1. Sangareddy Mandal

Sangareddy is one of the 69 mandals in medak district. Six mandals were selected for study. Sangareddy is the headquarters of the medak district in the state of united Andha Pradesh. It is about 55 km from Hyderabad and 72 km from Medak is located on Hyderabad-Mumbai Highway (NH9). It was named after the ruler Sanga, who is the son of Shankaramba ruler of Medak in the period of Nizams. In Sangareddy revenue division consists with15 mandals, As per the 2011 census, the population of Sanga Reddy Revenue Division is 9,30,686 out of which female population is 457773 and male population is 472913. Schedule caste female population is 937753 and Schedule caste male population is 95034, Schedule Tribe female population is 34481, Schedule Tribe male population is 36966 and the others female 32953and others male is 340913 respectively. It has three public sector industries in its constituency, they are Bharat Heavy Electrical limited (BHEl), Bharat Dyanmics limited (BDL) and Ordinance factory Medak. The Sangareddy town is categorized into old Sangareddy and New Sangareddy.

It is near to Hyderabad and it has good frequency of buses especially to Hyderabad, because, most of the people travel to offices, colleges and business purposes. Sangareddy has 198 sub-centres, 30 primary health centres, 4 community health centres, 2 area hospitals.

3.5.2. Jinnaram Mandal

Jinnaram is mandal in medak district of telangana state, India. Jinnaram mandal head quarter is Jinnaram town. Telugu is the Local Language here. Total population of Jinnaram Mandal is 69,292 living in 15,529 Houses, Spread across total 50 villages and 23 panchayats. Males are 36,763 and Females are 32,529 Total 13,115 persons lives in town and 56,177 lives in Rural. Jinnaram has 1 PHC population covered by 48698 and Sub Centers 48733 covered by sub centres. It belongs to telangana region. Jinnarm is belongs to sangareddy revenue division. As part of Telangana district re-organization, Jinnaram mandal was separated from Medak district and merged into Sangareddy district. It is located 32 KM towards East from Dstirct head Quarters Sangareddy.

Jinnaram Mandal is bounded by Ramachandrapuram mandal towards south, patancheru Mandal towards west, Medchal Mandal towards east, narsapur mandal towards north. Sangareddy city, Hyderabad city, Singapur city, Sadasivpet city are the nearby cites to Jinnaram. Jinnaram consist of 50 Villages and 23 Panchayats. Lakshmapur is the smallest Village and Gummadidala is the biggest village. It is in the 572 m elevation (altitude). This Place is in the border of the Medak District and Rangareddy District. Rangareddy District Medchal is east towards this place.

3.5.3. RC Puram Mandal

As of 2014 India census, Ramanchandrapuram had a population of 82301. Males constitute 52% of the population and females 48%. Ramachandrapuram has an average literacy rate of 70%, higher than the national average of 59.5%: male literacy is 75%, and female literacy is 64%. In Ramachandrapuram. 12% of the population is under 6 years of age. In Ashok Nagar Kakathiyanagar literacy is almost 95% and urban and rural people.

RC Puram has number of gram Panchayats 7 and one primary health centre and phc under 13 sub centers in RC Puram mandal.

3.5.4. Patancheru Mandal

Patancheru was one of the mandal in Medak district of Telangana state, India. Later, during the formation of new districts and mandals, it was merged into Sangareddy district. It is located 25 KM towards east from district head quarters Sangareddy. It is head quarter. Patancheru is surrounded by Ramachandrapuram mandal towards East, Jinnaram mandal towards north, Sangareddy Mandal towards west, Sankarapally Mandal towards west singapur, Sangareddy, Hyderabad, sadasivpet are the nearby cities to Patancheru. This Place is in the border of the Medak District and Rangareddy District. Rangareddy District Sankarapally is west towards this place is an industrial zone located about 32 km from the city centre on the hyderaabad-solapur highway, and around 18km from HITEC CITY. Earlier, it was the headquarters of Bidar and Gulshanabad revenue divisions. M. Shankar Yadav is the elected corporator for Patancheru division. It has a number of temples built between 12^{th} centuries. Patancheru is home to ICRISAT, and a large number of pharmaceutical manufacturers, which has result in local river water being the most drug polluted water in the world.

3.5.5. Sadasivpet Mandal

Sadasivpet was one of the Mandals in Medak District of Telangana State, India. Sadasivpet Mandal Head Quarters is Sadasivpet municipality town. After formation of new districts and mandal in Telangana, this mandal was merged in to Sangareddy district. It is located 19 KM towards west from District head quarters Sangareddy. Sadasivpet Mandal is bounded by Munipally Mandal towards west, Pulkal Mandal towards North, Kondapur Mandal towards South, Mominpet Mandal towards South Sadasivpet City, Sangareddy City, Singapur City , Zahirabad City are the nearby Cities to Sadasivpet. Sadasivpet consist of 32 Villages and 27 Panchayats. Yawapur is the smallest Village and Nandikandi is the biggest Village. It is in the 632 m elevation (altitude). This Place is in the border of the Medak District and Rangareddy District. Rangareddy District Mominpet

is South towards this place. Bidar, Medak, Hyderabad, Gulbarga, Warangal (Orugallu) are the nearby Important tourist destinations to see.

3.5.6. Kondapur Mandal

Kondapur is a village and Mandal in a newly formed Sangareddy district of Telangana state. Kondapur belongs to Sangareddy revenue division. There is museum belongs to Archaeological survey of India department located about 1km south of the village, Kondapur. The museum houses exhibits from an ancient mound locally know as kotagadda fort mound which is located nearby. The remains of a highly artistic life led by the people of the early historic period are found at this museum.

Section: C: Profile of selected Primary Health Centres

3.6. Selected nine Primary Health Centres

From six mandals, nine PHCs were selected for the study.

1. Jinnaram Primary Health Centre
2. Gummadidala Primary Health Centre
3. Kanukunta Primary Health Centre
4. R.C.Puram Primary Health Centre
5. Bhanoor Primary Health Centre
6. Munipally Primary Health Centre
7. Kandi Primary Health Centre
8. Kondapur Primary Health Centre
9. Athmakur Primary Health Centre

The description of the profiles of the selected PHCs is given as population covered by the PHC, number of sub centers, population covered by all the sub-centers and the total number of eligible couples of the PHCs.

Table 3.7: Background Information about Selected PHCs and Population Covered for the Study 2013-14

SLNO	Indicator	Jinaram	Gumadidala	Kanukunta	RC Puram	Bhanoor	Munipally	Kandi	Kondapur	Athmakur	Total
1	Name of Taluka	Jinnaram	Jinaram	Jinaram	R C Puram	Patanchervu	Sadasivapet	Sangareddy	Kondapur	Sadasivapet	
2	Type Of Location	rural	rural	rural	Urban and Rural	Rural	Rural	Rural+Urban	Rural	Rural	
4	No of sub-centres under PHCs	6	6	3	13	20	8	10	9	10	85
5	Population covered by PHCs	48698	30209	8969	82301	125819	39309	62300	43026	49780	490411
6	Population covered by sub-centres	48733	21564	4962	85211	119640	39399	53016	41583	50980	465088
7	No of eligible couples	3837	5027	2772	14367	23674	4008	26345	5445	15247	100722
8	No of Gram Panchayats	11	9	9	7	17	25	24	22	26	150
	Source: PHCs Profiles Records										

The requirement of healthcare services in any area can be determined by the demographics of that place. It can be seen from Table 3.7 that most of the PHCs are in rural areas. However, RC Puram and Kandi have a mixed composition of rural and urban population because these centres are near to GHMC limits. PHCs under Jinnaram Taluka cover over 29 Gram Panchayats through 15 sub- centres. R.C. Puram Mandal PHCs covers 7 Gram Panchayats villages through 13 sub-centres. Bhanoor PHC under Patancheru Mandal covers 17 Gram Panchayats, through 20 sub-centres. Munipally under Sadasivpet Mandal covers 25 Gram Panchayats, though 8 sub-centres. Kandi under Sangareddy Mandal covers 24 Gram Panchayats, through 10 sub-centres which provide services to both for rural and urban populations. Kondapur PHC under Kondapur Mandal serves 22 Gram Panchayats, through 9 sub-centres and Athmakur PHC under Sadasivpet Mandal covers 26 Gram Panchayats, through 10 sub-centres.

It can be seen that, overall, the population covered by the PHCs is more than that served by the sub-centres. It could also be seen that all sub-centres are not covering almost similar number of eligible couples. This suggests that there is not much uniformity in the distribution of eligible couples.

3.7. No of Posts Vacant In PHCs 2013-14

Each PHC is supposed to have a staff pattern according to existing norms, (as shown in chart Appendix: 1, page no.154)

A common reason cited for the failure of many government sponsored schemes is the shortage of staff position entailing a certain degree of expertise. For instance, the post of Medical Officer can be held only by a qualified doctor. Similarly, the positions like those of nurses, laboratory staff, pharmacists, etc., entail some skills in the particular area. It is also possible that persons having the requisite qualifications may not be locally available, given the low level of literacy in such areas. Also, outsiders may not always be willing to work in relatively under-developed areas. There is also the issue of the lengthy procedure involved in filling up government posts.

Table 3.8: No of Posts sanctioned and Vacant In PHCs in 2013-14												
Staff/Category		**1.Jinnaram**	**2.Gummadidala**	**3.Kanukunta**	**4.RC Puram**	**5.Bhanoor**	**6.Munipally**	**7.Kandi**	**8.Kondapur**	**9.Athmakur**	**TOTAL**	**Vacant % to sanctioned**
1.Medical Officer	Sanctioned	2	1	1	1	1	2	1	2	2	**13**	
	No of Positions	2	1	1	1	1	2	1	2	2	**13**	
	Vacant	0	0	0	0	0	0	0	0	0	**0**	**0**
2.APMO	Sanctioned	1	1	1	1	1	1	1	1	1	**9**	
	No of Positions	0	0	0	1	1	0	1	0	0	**3**	
	Vacant	1	1	1	0	0	1	0	1	1	**6**	**67**
3.MPHEO	Sanctioned	1	1	1	0	1	1	1	1	1	**8**	
	No of Positions	1	1	0	0	1	0	1	0	1	**5**	
	Vacant	0	0	1	0	0	1	0	1	0	**3**	**38**
4.CHO	Sanctioned	1	1	1	1	1	1	1	1	1	**9**	
	No of Positions	0	0	0	1	1	1	0	1	0	**4**	
	Vacant	1	1	1	0	0	0	1	0	1	**5**	**56**
5. PHN	Sanctioned	1	1	1	1	1	1	1	1	1	**9**	
	No of positions	1	0	0	1	0	1	1	1	1	**6**	
	Vacant	0	1	1	0	1	0	0	0	0	**3**	**33**
6.MPHS(F)	Sanctioned	3	1	1	3	4	2	2	3	3	**22**	
	No of Positions	3	1	1	3	4	2	2	3	3	**22**	
	Vacant	0	0	0	0	0	0	0	0	0	**0**	**0**
7.MPHS(M)	Sanctioned	1	1	1	1	2	1	1	1	2	**11**	
	No of Positions	1	1	0	1	2	1	1	1	2	**10**	
	Vacant	0	0	1	0	0	0	0	0	0	**1**	**9**
8.Staff Nurse	Sanctioned	2	2	1	3	1	1	1	2	2	**15**	
	No of Positions	2	2	1	3	1	1	1	2	2	**15**	
	Vacant	0	0	0	0	0	0	0	0	0	**0**	**0**
9.Sr. Asst	Sanctioned	1	1	1	1	1	1	1	1	1	**9**	
	No of Positions	1	1	1	1	1	0	1	1	1	**8**	
	Vacant	0	0	0	0	0	1	0	0	0	**1**	**11**
10.Jr. Asst	Sanctioned	1	1	1	0	1	1	1	1	1	**8**	
	No of Positions	1	0	0	0	0	0	0	0	0	**1**	
	Vacant	0	0	1	0	1	1	1	1	1	**6**	**75**
11.Lab-Tech	Sanctioned	1	1	1	1	1	1	1	1	1	**9**	
	No of Positions	1	1	1	1	1	1	1	1	1	**9**	
	Vacant	0	0	0	0	0	0	0	0	0	**0**	**0**
12.Pharma	Sanctioned	1	1	1	1	1	1	1	1	1	**9**	

	No of Positions	1	1	1	1	0	1	1	1	1	**8**	
	Vacant	0	0	0	0	1	0	0	0	0	**1**	**11**
	Sanctioned	1	1	1	0	1	1	1	1	1	**8**	
	No of Positions	1	0	0	0	0	0	0	0	0	**1**	
13.MNO	Vacant	0	1	1	0	1	1	1	1	1	**7**	**88**
	Sanctioned	1	1	1	0	1	1	1	1	1	**8**	
	No of Positions	1	0	0	0	0	0	0	0	0	**1**	
14.FNO	Vacant	0	1	1	0	1	1	1	1	1	**7**	**88**
	Sanctioned	6	6	2	13	20	4	6	9	10	**76**	
	No of Positions	6	6	2	13	20	4	6	9	10	**76**	
15.MPHA(F)	Vacant	0	0	0	0	0	0	0	0	0	**0**	**0**
	Sanctioned	2	3	2	2	6	2	2	2	1	**22**	
	No of Positions	2	3	2	2	6	2	2	2	1	**22**	
16.MPHA(M)	Vacant	0	0	0	0	0	0	0	0	0	**0**	**0**
	Sanctioned	6	5	2	5	10	9	11	7	10	**65**	
	No of Positions	6	5	2	5	10	9	11	7	10	**65**	
17.2nd ANM	Vacant	0	0	0	0	0	0	0	0	0	**0**	**0**
	Sanctioned	1	1	1	1	1	2	1	1	2	**11**	
	No of Positions	1	1	0	1	1	2	0	1	2	**9**	
18.O.Sub	Vacant	0	0	1	0	0	0	1	0	0	**2**	
	Sanctioned	1	1	1	0	1	1	1	1	1	**8**	
	No of Positions	1	1	0	0	0	1	0	0	0	**3**	
19.Sweeper	Vacant	0	0	1	0	1	0	1	1	1	**5**	**63**
	Sanctioned	1	1	1	0	1	1	1	1	1	**8**	
	No of Positions	1	0	0	0	0	1	0	0	0	**2**	
20.Thoty	Vacant	0	1	1	0	1	0	1	1	1	**6**	**75**
	Sanctioned	2	2	1	2	1	2	1	2	2	**15**	
	No of Positions	2	2	1	2	1	2	1	2	2	**15**	
21.Contingency Worker	Vacant	0	0	0	0	0	0	0	0	0	**0**	**0**
	Sanctioned	1	1	1	0	1	1	1	1	1	**8**	
	No of Positions	0	1	0	0	0	0	0	1	0	**2**	
22.Class IV	Vacant	1	0	1	0	1	1	1	0	1	**6**	**75**
	Sanctioned	1	1	1	0	1	1	1	1	2	**9**	
	No of Positions	0	0	0	0	0	0	0	1	2	**3**	
23.RCH-1	Vacant	0	0	1	0	1	1	1	0	0	**4**	**44**
	Sanctioned	**39**	**36**	**26**	**37**	**60**	**39**	**40**	**43**	**49**	**369**	
	No Of Positions	**35**	**28**	**13**	**37**	**51**	**31**	**31**	**36**	**39**	**301**	
Total	**VACANT**	**3**	**6**	**13**	**0**	**9**	**8**	**9**	**7**	**8**	**63**	**17**

Source: field work Office Records of PHCs

It can be seen from Table 3.8 that of the 23 categories of staff, there were only 7 categories (Medical Officer, Staff Nurse, Lab Technician, Contingency Worker, MPHA (F), MPHA (M) and 2nd ANM) where no posts were vacant. For positions like those of FNO and MNO, the overall vacancy was found to be as high as 88%. Only one PHC (RC Puram) reported that all the posts were filled. On the other hand, in Kanukunta, the overall vacancy position was as high as 50%. Some faculty positions lie vacant. A major reason cited for not filling up of the vacancy positions is the non availability of suitable candidates belonging to the reserved category. One cannot take the plea that majority of the vacancies pertain to only those of clerks, sweepers and peons; hence these should not adversely affect the effectiveness of the concerned PHCs. While the former category of personnel is essential for maintaining office records, the latter can help in ensuring the cleanliness of the health centre, which is very essential perquisite for any medical centre.

3.8 Services Provided at Primary Health Centres and Sub Centres

Each PHC has six beds capacity and has about fifteen rooms including rest rooms to the doctor and the staff nurse. Out of fifteen rooms, six beds are available for general patients in one room and another sex beds are available in one room to women who come for deliveries and family planning operations. Electricity connection is there and all the rooms have fans which are working. It also has phone connection and computer facility. Bore well is there in the premises of the PHC which is the source of drinking water to the staff and patients. Separate toilet facilities are there for the patients and the staff.

It has out-patient and in-patient facilities, and 24 hours delivery facility is available. The timings for out patient's Department are from morning 9am to 12 noon and evening from 4 to 6pm. Family planning operations are done here every week. Normal deliveries are conducted and serious cases are referred to Area Hospital in Sangareddy and Narasapur and Patancheru. Lab facilities are there to test malaria and tuberculosis cases. Tuberculosis cases come to PHC but so test far no Malaria cases were reported in this area. Recently one ANM was appointed here to test the AIDS cases and create awareness about AIDS in the villages but she resigned from the post within a short period.

Medicines are always available and some injections are kept in the cold storage. The PHC gets medicines Rs. 65,000/- costing of every three months from the district head quarters in Sangareddy. If the three months quota of medicines is over, additional medicines will be supplied to meet the demand from PHC. And Rs/-2500 amount is given for diesel and other expenses to maintain the jeep for the PHC. Anti Snake Vaccine (AVC) and Anti Rabbis Vaccine (ARV) are also available.

3.9. Sub Centre Services

Sub centre is a bridge between rural community and public primary health care system. A sub centre is responsible for providing all primary health care and makes the services more responsive and sensitive for the rural community. The Table 3b.3 provides information on the sub centres and ANMs. It can be seen that on an average there is one ANM per SC. The number of villages covered per ANM is in the range of 5.7. Quality of healthcare of SC therefore obviously suffers because of high coverage. Only 40 percent of SCs have their own buildings. In terms of the physical infrastructure, about 70 percent of SCs did not have delivery tables, 30percent of SCs did not have medical equipment, 40 percent did not have electricity connections, 60 percent of SCs did not have24hrs water supply. NRHM funds have not succeeded so far to remove this deficiency of physical infrastructure prevailing at SCs. 75 percent of ANMs are involved in the selection of ASHA with whom they have to work closely. However, 60 percent ANMs felt that ASHAs had reduced their work load. Almost all ANMs received the NRHM untied grant of 10,000/- per year. All ANMs had joint bank account with sarpanch of the Panchyati. 80 percent used for this found repairs and renovations. 10 percent buying medicine, 105 electrify supply. Since them physical infrastructure continued to be in the bad shape as found above. No ANMs conducted deliveries and deliveries were referred to either to PHCs or to CHC.

It was ascertained that the nine PHCs under study had in all 50 sub-centers functioning under them. The Table 3.9 will give an idea about the type of building from where these sub-centres were operating.

Table 3.9: Building Position of the Sub-Centres 2013-14

S.I No	PHC	Government building	Rented building	Rent free/Panchayat /society building	Total number of sub-centres functioning	Total
1	Jinnaram	1	5	0	6	**12**
2	Gumadidala	1	4	1	6	**12**
3	Kanukunta	1	1	1	3	**6**
4	RC Puram	6	5	2	13	**26**
5	Bhanoor	9	8	3	20	**40**
6	Munipally	1	6	1	8	**16**
7	Kandi	6	2	2	10	**20**
8	Kondapur	3	6	0	9	**18**
9	Athmakur	3	5	2	10	**20**
	Total	**31**	**42**	**12**	**85**	**170**
	percentage	**18**	**25**	**7**	**50**	**100**

Source: ANMs and MPHSs in All Sub Centres

It was found that in all the nine PHCs most of the sub centers are functioning in rented buildings. Out of 85 sub–centres only 31 have own building (government building) and rest 42 are in rented building and 12 are in Panchayat buildings. This indicates that infrastructure development is much more required.

3. 10. Health infrastructure (Equipment)

Availability of infrastructure would certainly determine the quality of service provided to the patients in a health-setup. And PHCs are having no exception as such. Indeed basic infrastructure like Laboratory facilities, a proper drug counter, well furnished wards, labour room, waiting room, power supply, water supply and approachable roads ensure quality treatment for the patients. Therefore some of the important related questions were asked to the staff, and the responses are given in Table 3.10. Any medical facility can function effectively only if it has at least the minimum quantities of the essential items of equipment.

Table 3.10: Availability of Equipment in all Primary Health Centres

S.I No	Equipment	1.Jinnaram	2.Gummadidala	3.Kanukunta	4.RC Puram	5.Bhanoor	6.Munipally	7.Kandi	8.Kondapur	9.Athmakur	TOTAL
	Operation Theatre										
1	MAYOs Scissors 17cm straight	1	0	0	1	1	1		1	1	6
2	MAYOs Scissors 17cm culgers	1	1	1	1	1	1	1	1	1	9
3	Hanger Needle Holders 16m	1	1	1	1	1	1	1	1	1	9
4	Scalpel Handle	1	1	1	1	1	1	1	1	1	9
5	Blades for Scalpel Handle	1	1	1	1	1	1	1	1	1	9
6	Dissection Forceps	1	0	0	0	1	1	1	1	1	6
7	Artery Forceps	1	1	1	1	1	1	1	1	1	9
8	Alice Tissue Forceps	1	1	1	1	1	1	1	1	1	9
9	Babcock Tissue Forceps	1	1	0	1	1	1	1	1	1	8
10	Towel Clips	0	0	0	1	1	1	1	1	1	6
11	Kidney Trays	1	1	0	1	1	1	1	1	1	8
12	Bhowles	1	1	1	1	1	1	1	1	1	9
13	hydraulic OT Table	1	1	1	1	1	1	1	1	1	9
14	Shadowless OT Lights	1	1	0	1	1	1	1	1	1	8
15	Auto Clave Bins	1	1	1	1	1	1	1	1	1	9
16	Foleys Catheters	1	1	1	1	1	1	1	1	1	9
17	Fumigator	1	1	1	1	1	1	1	1	1	9
18	Sterilizer	1	1	1	1	1	1	1	1	1	9
19	Teatre Trolley	1	1	0	1	0	1	1	1	1	7
20	Medicine Trolley	1	1	0	0	0	1	1	1	1	6
21	TncubatorH	1	1	0	0	0	1	1	1	1	6
22	ET Tubes	1	1	1	1	1	1	1	1	1	9
23	Saturation Probe	1	1	1	1	1	1	1	1	1	9
24	Monitor	1	1	0	1	1	1	1	1	1	8
25	Oxygen Cylinder	1	1	1	1	1	1	1	1	1	9
26	Nitrogen Cylinder	1	1	1	1	1	1	1	1	1	9
	TOTAL	25	23	16	23	23	26	25	26	26	213
	percentage	**12**	**11**	**8**	**11**	**11**	**12**	**12**	**12**	**12**	**100**

SLNO	Equipment	1.Jinnaram	2.Gummadidala	3.Kandhakurthy	4.RC Puram	5.Bhanoor	6.Munipally	7.Kandi	8.Kondapur	9.Athmakur	TOTAL
	LABOUR ROOM										
1	Labour Table with Adjustable Side Rails	1	0	0	1	1	1	1	1	1	**7**
2	Radiant Warmer	1	1	1	1	1	1	1	1	1	**9**
3	Resuscitation kits	1	1	1	1	1	1	1	1	1	**9**
4	Mucus Extractor	1	1	1	1	1	1	1	1	1	**9**
5	PediatricH Stethoscope	1	1	1	1	1	1	1	1	1	**9**
6	Oxygen Cylinder	1	1	1	1	1	1	1	1	1	**9**
7	Stain Steel/PHlastic Chair	1	1	1	1	1	1	1	1	1	**9**
8	Fetal –Doppler	1	1	1	1	1	1	1	1	1	**9**
9	Fetoscope	1	1	1	1	1	1	1	1	1	**9**
10	Delivery Trays	1	1	1	1	1	1	1	1	1	**9**
11	Stethoscope	1	1	1	1	1	1	1	1	1	**9**
12	B.P.Apparatus	1	1	1	1	1	1	1	1	1	**9**
13	Thermometer	1	1	1	1	1	1	1	1	1	**9**
14	Baby Digital Thermometer	1	1	1	1	1	1	1	1	1	**9**
15	Wall-Clock with Seconds	1	1	0	1	1	1	1	1	1	**8**
16	Wall-Mounted therMometer	1	1	0	1	1	1	1	1	1	**8**
17	Cloured Buckets	1	1	1	1	1	1	1	1	1	**9**
18	Autoclave with Gas stove	1	1	1	1	1	1	1	1	1	**9**
19	Baby Weighing Scale	1	1	1	1	1	1	1	1	1	**9**
20	Chettle Forceps	1	1	1	1	1	1	1	1	1	**9**
21	Glucometer	1	1	1	1	1	1	1	1	1	**9**
22	Tags, Sterile Pads	1	1	1	1	1	1	1	1	1	**9**
23	Surgical Gloves	1	1	1	1	1	1	1	1	1	**9**
24	Mops with Stand	1	1	1	1	1	1	1	1	1	**9**
	TOTAL	**24**	**23**	**21**	**24**	**24**	**24**	**24**	**24**	**24**	**212**
	Percentage	**11**	**11**	**10**	**11**	**11**	**11**	**11**	**11**	**11**	**100**

	STAFF NURSE ROOM										
1	Stainless Steel Stray With lid	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**
2	Hub Cutter	1	1	1	1	1	1	1	1	**1**	**9**
3	Ampule Breaker	1	1	1	1	1	1	1	1	**1**	**9**
4	Disposable Syringes	1	1	1	1	1	1	1	1	**1**	**9**
5	Cotton	1	1	1	1	1	1	1	1	**1**	**9**
6	Surgical Spirit	1	1	1	1	1	1	1	1	**1**	**9**
	TOTAL	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**54**
	Percentage	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**100**
	LABORATORY										
1	Microscope	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**
2	Centrifuge	1	1	1	1	1	1	1	1	**1**	**9**
3	Reagents	1	1	1	1	1	1	1	1	**1**	**9**
4	Cotton Surgical Spirit	1	1	1	1	1	1	1	1	**1**	**9**
5	Slides	1	1	1	1	1	1	1	1	**1**	**9**
6	Blood Lancets	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**
	Total	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**54**
	Percentage	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**100**
Source: PHCs Field work											

This aspect was covered in four sections (i) availability of Operation theatre, (ii) Labour room, (iii) Staff nurse's room, and (iv) the Laboratory. It is found that Kanukunta PHC did not have equipment like theatre trolley, medicine trolley and incubator in its operation theatre. Also, some minor items for the operation theatre too were not to be found in this PHC. Equipment under the other heads was found to be available in all the PHCs. Still, it is worth mentioning here that all the items were only one each in number. Hence, in the event of any item becoming unavailable due to its being damaged, being stolen, etc., the PHC had to manage without that till a replacement was provided. This was certainly not a happy state of affairs. About 83 per cent of the doctors were not satisfied with the available facilities to have safe deliveries in PHCs. The Problem of Emergency Oxygen, quality glows, problem of nearby blood bank, scarcity of trained nurses/staff, uninterrupted power supply, etc, are the general constraints noted in PHCs. In addition to this, there is also lack of HIV Kit to facilitate the doctors to handle the delivery cases safely. Further HIV Counselors are also required for PHCs to handle such cases. Besides some of the doctors also shown dissatisfaction about working hours of PHC. They felt that a doctor can hardly work 24 hrs a day. Under such circumstances doctors are not

ready to accept even if a small complication arises in delivery cases. They try to avoid such cases and may refer to the Private hospitals or Govt. District Hospitals.

3.11. Availability of supplies and Facilities at the Primary Health Centres

Any medical unit can function smoothly if only it has at least the barest quantities of supplies and facilities. PHCs are not full-fledged hospitals; but they should provide first aid, and take care of Primary Health Care needs of the patients and more etc., to the patients till the more serious cases are referred to better equipped hospitals. The data of Table 3.11 gives the availability position of supplies in the PHCs under study.

Table 3.11: Availability of Supplies and Facilities at the Primary Health Centres.

	1.Jinnaram	2.Gummadidala	3.Kanukunta	4.RC Puram	5.Bhanoor	6.HMunipally	7.Kandi	8.Kondapur	9.Athmakur	TOTAL
	Supplies									
Cotton	1	1	1	1	1	1	1	1	1	**9**
Gloves	1	1	1	1	1	1	1	1	1	**9**
Bleaching powder	1	1	1	1	1	1	1	1	1	**9**
Spirit	1	1	1	1	1	1	1	1	1	**9**
Detol/salver	1	1	1	1	1	1	1	1	1	**9**
TOTAL	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**45**
% of Supplies	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**100**
	Facilities									
	Top Five				**Bottom Five**					
1	MCH				De worming					
2	Intuitional Deliveries				Vitamins A					
3	UIP				Leprosy					
4	FP				HIV					
5	CDC				TB					

Source: Field work

Availability of supplies and facilities to all PHCs show that there is a regular supply of the material required in the PHCs. Still, one cannot fail to notice that each item was only one in number. The PHCs should constantly monitor the stock position and ensure that the items are regularly replenished.

It is also noted that there is a priority of supplies to all PHCs under various heads. The priority supplies are in MCH, Deliveries, UIP, FP, and CDC. However, lower priority was accorded to supplies pertaining to De-warming, Vitamin A, Leprosy, HIV and TB. Though there is no delay in supplies, the bottoms five require a little more attention in supply of medicines. Diseases like Leprosy, TB and HIV may be connected to social stigma, but these too need to be treated on priority basis.

3.12. Availability of Furniture in the Rooms of the PHCs

Any medical facility should have adequate furniture both for the personnel working in it and the patients visiting it. Table 3.12 below will depict the situation in the various PHCs under study.

Table 3.12: Availability of Furniture in the Rooms of the PHCs

S.I No	Staff Room	Furniture Details	1.Jinnaram	2.Gummadidala	3.Kanukunta	4.RC Puram	5.Bhanoor	6.Munipally	7.Kandi	8.Kondapur	9.Athmakur	TOTAL
		1 table , 4 chairs,	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**9**
1	MO	1 examination table, 1 stool for patient	**1**	1	1	1	1	1	1	1	1	9
2	CHO	Table with drawer. S type chair, 2 chairs	**0**	0	0	1	1	1	0	1	0	4
3	PHN	Table with drawer. S type chair, 2 chairs	**1**	0	0	1	0	1	1	1	1	6
4	IUD/OT	1 examination table, 1 almirah, instrument table	**1**	1	1	1	1	1	1	1	1	9
5	Recovery Room	6beds	**1**	1	1	1	1	1	1	1	1	9
6	Pharmacist	Table with drawer. S type chair, 2 chairs, trays for keeping medicines in table	**1**	1	1	1	1	1	1	1	1	9
7	LT	Table with drawer. S type chair, Attender stool	**1**	1	0	1	1	1	1	1	1	8
8	Labour room	Table for nursing station, chair	1	1	1	1	1	1	1	1	1	9
9	store room	Racks	**1**	1	1	1	1	1	1	1	1	9
10	Staff Nurse	Table, chair	**1**	1	1	1	1	1	1	1	1	9
11	Sr.Asst	Table with drawer. S type chair, Attender stool	**1**	1	0	1	1	1	1	1	1	8
12	MNO	chair, Attendent stool	**1**	0	0	0	0	0	0	0	0	1
13	FNO	chair, Attendent stool	**1**	0	0	0	0	0	0	0	0	1
14	O.Sub	stool	1	1	0	1	1	1	0	1	1	7
		TOTAL	**14**	**11**	**8**	**13**	**12**	**13**	**11**	**13**	**12**	107
		percentage	**13**	**10**	**7**	**12**	**11**	**12**	**10**	**12**	**11**	100

Souce: field work

It can be seen that only a few rooms like those of the medical officer, staff nurse, IUD/OT, Recovery Room, labour room and store room are fully stocked with furniture. In the case of MNO and FNO, only Jinnaram PHC had the requisite furniture. It is evident that, other than Jinnaram, all the PHCs have noticeable deficiencies of furniture.

Government has introduced the Janani Surakha Yojana scheme to encourage the institutional deliveries from 1.11.2005 as per the Government of India guidelines. The scheme provides Rs.1000/- incentive to women after delivery if she comes for intuitional delivery. This can be availed from the concerned sub-centre ANM (Auxiliary Nurse Midwife) by producing the child birth certificate. Government is also providing Rs.500/- to family who goes for family planning operation and this amount can be availed from the senior assistant in the PHC.

3.13. Services Provided by the Primary and Sub – Centres

3.13.1 Medical care

OPD services: 4 hours in the morning and 2 hours in the afternoon / evening. Time schedule will vary from state to state. Minimum OPD attendance should be 40 patients per doctor per day 7hours. 24 hours emergency services: appropriate management of injuries and accident, First Aid, Stabilization of the condition of the patient before referral, dog bite/snake bite/scorpion bite cases, and other emergency conditions Referral services In-patient services (6 beds)

a) Curative Care

The total number of patients who were provided services at the Out Patient OPD/ Sub Centre SC dispensary. The average number of patients attending in the PHC is 55 per day. The evidence has been collected from the Medical Officer of the respective PHCs.

b) Maternal and Child Health services

The PHCs were supposed to handle the maternity cases. Reducing Maternal Mortality is one of the objectives of National Population Policy 2000. The activities under MCH care ANC, PNC, deliveries and baby checkups TT, BCG, DPT etc.

c) Family Planning Services

Good Quality of care in family planning (FP) services help individuals and couples to meet their reproductive health care needs safely and effectively. PHCs are important to provide quality family planning services that could enhance family planning services utilization.

d) Other Services

They provided services to patients under national health programmes such as Malaria, Leprosy, Blindness and TB, etc.

e) Laboratory Service

In any PHCs basic laboratory services assumer to be highly crucial routine blood tests like TC DC, Test for Sugar, urine tests etc, are required very often. Therefore working of 24×7 PHCs should have at least 10 hours of laboratory working time. Most of them were complained that the working hours of the Laboratory are not uniform/regular. Further, most of the times lab technicians were absent and even if they are present, they come late and are not so co-operative. Similar opinion was also given about the pharmacists of PHCs.

f) Lack of Medicines

The amount available for essential drugs at a PHC is inadequate to ensure that sufficient drugs are available, especially if the PHC is staffed with dedicated health workers and able to attract to large number of patients.

3.14. Conclusions

Medak has well-established health care systems, but service delivery remains hampered by lack of health personnel both medical and non medical, non availability of own buildings for sub centre and lack of medicines. It is, therefore, imperative that issues like absenteeism and poor quality of services have to be addressed on a war footing. So that better service delivery would be possible. The urgent need of the PHCs is to appoint the

suitable personnel where it is lacking. Most of the PHC are found to be paralyzed due to the lack of Para medical staff, especially Lab technicians. If there is any delay to make permanent appointments for this post, state shall provide autonomy to the concerned PHC to appoint the staff on temporary basis, but with a handsome salary. For this it should create a separate fund for quick disbursement.

CHAPTER 4

FACTORS AFFECTING PERFORMANCE OF PRIMARY HEALTH CENTRES

4.1. Introduction

This chapter describes various services provided by the nine PHCs under study, during the period of 2013-14. This analysis will give an idea about the relative performance of these PHCs and the areas where these have performed better and where they have lagged behind. The conclusions of this chapter will be useful for improving the performance of PHCs.

Table 4.1: Services Available in PHCs during 2013-14:

S.No.	Day	Name of the Service
1	MON	Antenatal services at Sub-Centres, Treatment for Anti-TB services.
2	TUE	Tubectomies and Operations under Family Planning,
3	WED	Treatment for Anti-TB Services, Immunization doses (BCG, DPT, Polio Measles, DT, TT.
4	THU	JBAR (Jawahar Bala Arogya Raksha) visit under Anti-TB services, Anti-Leprosy treatment
5	FRI	ANC-HB% U Test under Lab services
6	SAT	STD/RTI Clinic, Immunisation Doses
7	Every Day	Outpatient Services, CU-I; OP, Nirodh under Family Planning Catogery.
		Screening under Anti-TB Services.
		Screening for Malaria, Screening for TB, Anti-Leprosy treatment under Lab Service
Source: Field Work		

The services listed in Table 4.1 are provided in above nine PHCs during working days. For convenience they concentrate on a particular service on a particular day in a week for example on Monday all the PHCs will have Antenatal services at sub centres, treatment for anti-TB services and (in the writing categories those into main activities like illness care (IL), Maternal and Child Health (MCH), and Family Planning (FP), Communicable Disease (CDC), and Environmental Sanitation (ENV)). On Tuesday they have Tubectomy Operations under other services, Family Planning services and on Wednesday treatment for anti-TB services and immunization and on Thursday there is a special provision for the Jawahar Bala Aroghya Raksha (JBAR) scheme and on Friday all the lab services and on Saturday it is again immunization and other STD related issues.

Apart from these services the PHCs provide Out Patient services, malaria screening, and family planning anti-leprosy treatment etc., on all the working days.

Table 4.2: Sub Centre Rotinue Services in all PHCs during 2013- 14

S.I No	Name of the Day	Name of the survice by Rotinue	Jinnaram	Gummadidala	Kanukunta	rc puram	Bhanoor	Munipally	Kandi	Kondapur	Athmakur
1	Monday	ANC Checkups and OP	1	1	1	1	1	1	1	1	1
2	Tuesday	FP cases are collected	1	1	1	1	1	1	1	1	1
3	Wednesday	Immunization and OP	1	1	1	1	1	1	1	1	1
4	Thursday	OP and field home vistis and school vists/ hostel visits	1	1	1	1	1	1	1	1	1
5	Friday	Op and ANC Checkups	1	1	1	1	1	1	1	1	1
6	Saturday	Immunization	1	1	1	1	1	1	1	1	1
	Total		**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
	Source: field survey										

The lists of type of Services provided in all sub centres of PHCs are given in table 4.2. Each PHC was given some target to achieve for each indicator based on its population. It is found that all the services on the working days are available in the sub centres. The services provided by the sub centres are ANC checkup and OP, on Tuesday they only collect the FP cases and report to PHCs. On Wednesday Immunization and OP, on Thursdays the ANM visits the homes and schools under Jawahar Bala Arogya Raksha (JBAR). On Fridays and Saturdays it is OP and immunization along with ANC checkups. Lab testing services are not available in the sub centre and are only available only in PHCs.

4.2. No of Sub Centre Meetings Conducted 2013-14

These meetings are very important, since many of the residents may not have much awareness about various health issues, due to the relatively low level of literacy in these areas. As a result, printed publicity in newspapers/magazines, posters, etc., would not be much effective. Due to poverty, many residents may not be able to access the electronic media. Thus, face to face meetings should be more successful since the motivator can also clear doubts if any in the minds of the target audience. The data of Table 4.3 will

give an idea of the meetings conducted under the aegis of the concerned PHCs during 2013-14.

It is clear that none of the PHCs had more than one meeting in the entire year. On the other hand, in Kanukunta, there was not a single meeting of VHND, Gram Sabha and for special programmes. The concerned authorities should ensure greater periodicity of such meetings since a number of health-related issues can be discussed and resolved in these meetings. The present working pattern of doctors is required to change. State should think more practically in this regard. The frequency of meetings that medical offices supposed to attend should be curtailed. Otherwise most of the time is getting wasted without any meaningful results. Further local authorities should be restricted strictly in involving the medical affairs of PHCs.

Table 4.3: No of Sub Centre Meetings Conducted in 2013-14

S.I No	Indicator	Jinnaram	Gummadidala	Kanukunta	RC Puram	Bhanoor	Munipally	Kandi	Kondapur	Athmakur	Total
	No of Sub-centres Under the PHC	**6**	6	3	13	20	8	10	9	10	85
1	(VHND) Village Health Nutrition Day Meeting	1	1	0	1	1	1	1	1	1	8
2	Gram Shaba Meeting	1	1	0	1	1	1	1	1	1	8
3	ASHA Day Meeting	1	1	1	1	1	1	1	1	1	9
4	School Health Visits Meeting	1	1	1	1	1	1	1	1	1	9
5	ANC Clinic meeting	1	1	1	1	1	1	1	1	1	9
6	Any Special Programme	1	1	0	1	1	1	1	1	1	8

Source: MPHAs of Sub-centres 2013-14.

4.3. Administrative Performance Meeting Conducted in PHCs during 2013-14

Such meetings are important since these help in taking stock of the progress achieved and locating the loopholes and roadblocks in implementing the various programmes. The Table 4.4 will give an idea about the conduct of such administrative meetings.

It is encouraging to note that all the PHCs have conducted such meetings. However, it is felt that the periodicity of these meetings should be significantly increased.

Table 4.4: Administrative Performance Meeting Conducted in PHCs during 2013-14

		Jinnaram	Gumadidala	Kanukunta	RC Puram	Bhanoor	Munipally	Kandi	Kondapur	Athmakur	Total
S.I No	Meetings conducted in PHCs	1	1	1	1	1	1	1	1	1	9
1	Every Month ASHA day Meeting 1st Monday	1	1	1	1	1	1	1	1	1	9
2	Every Month Staff Meeting 23rd date	1	1	1	1	1	1	1	1	1	9
3	HDS meeting	1	1	1	1	1	1	1	1	1	9
4	Marpu Meeting	1	1	1	1	1	1	1	1	1	9
5	Sector for Reports Meeting	1	1	1	1	1	1	1	1	1	9
6	(PMSMA) PRADHAN Mantri Surakhit Matritva Abhiyan	1	1	1	1	1	1	1	1	1	9
7	IEC Activity meeting(group/Lectures)	1	1	1	1	1	1	1	1	1	9
	TOTAL	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	72

Source: MOs of the PHCs

4.4. Performance of Primary Health Centres

The performance indicators identified from the records of PHCs were number of laboratories test for diagnosing various diseases, number of inpatients, number of outpatients, number of Anti-natal care ANCs, Institutional deliveries and number of post-natal checkups. The immunization indicators both for mothers and children and the number of Family Planning Operations.

Table 4.5: No of Laboratory Tests Conducted Under the Jurisdiction of the PHCs during 2013 to 2014

	No of TESTs												PERCENTAGE											
PHC	ANC	HB%	U TEST	Sputum for TB	Screening for Malaria	HBSAG Lives	Widel Typhiod	Blood Sugar	Blood Group	Blood for VDRL	STD/RTL CLINC	GRAND TOTAL	ANC- HB%	HB%	U TEST	Sputum for TB	Screening for Malaria	HBSAG Lives	Widel Typhiod	Blood Sugar	Blood Group	Blood for VDRL	STD/RTL CLINC	TOTAL
1.Jinnaram	650	650	652	210	3210	110	167	101	0	63	68	5881	11	11	11	4	55	2	3	2	0	1	1	100
2.Gummadidala	392	392	392	30	9234	0	134	89	0	56	92	10811	4	4	4	0	85	0	1	1	0	1	1	100
3.Kanukunta	1490	248	248	41	1203	94	221	41	101	96	138	3921	38	6	6	1	31	2	6	1	3	2	4	100
4.RC Puram	1841	1841	738	799	845	351	296	320	293	242	238	7804	24	24	9	10	11	4	4	4	4	3	3	100
5.Bhanoor	2136	2136	2130	134	4536	240	156	460	234	106	75	12343	17	17	17	1	37	2	1	4	2	1	1	100
6.Munipally	432	432	432	1090	3162	0	195	0	210	432	342	6727	6	6	6	16	47	0	3	0	3	6	5	100
7.Kandi	126	270	287	65	2340	0	236	0	263	126	126	3839	3	7	7	2	61	0	6	0	7	3	3	100
8.Kondapur	510	510	528	146	2094	132	108	268	132	0	210	4638	11	11	11	3	45	3	2	6	3	0	5	100
9.Athmakur	438	438	430	503	3018	0	321	241	0	276	276	5941	7	7	7	8	51	0	5	4	0	5	5	100
Total	8015	6917	5837	3018	29642	927	1834	1520	1233	1397	1565	61905	13	11	9	5	48	1	3	2	2	2	3	100

Source: Nine PHCs records

4.4.1. Laboratory tests conducted under the jurisdiction of the PHCs during 2013-14

One of the easiest method of diagnosing an ailment is the laboratory test, which can help the doctor to decide on the course of treatment to be given to the particular patient. Some of the diseases for which tests are quite effective are: TB, Malaria, Typhoid and STD. The Table 4.5 will provide an idea about the PHCs both about the total number of tests and the specific tests on which the individual PHCs have been paying greater, or lesser, attention.

At first glance itself, one can see that the PHCs did not conduct almost equal number of tests. While Bhanoor PHC conducted a total of 12343 tests, the figure in respect of Kandi PHC was as low as 3939. The next issue of interest was the specific tests which 'dominated' the others. It is clear that, except RC Puram and Kanukunta PHCs, the other PHCs handled the maximum number of cases pertaining to screening for Malaria. RC Puram and Kanukunta PHCs handled the largest number of tests pertaining to ANC-HB%. The other tests which kept the PHCs occupied were: ANC- HB%, HB% and U Test. However, one cannot totally ignore the noticeable percentage of 'Sputum for TB' tests in Munipally and RC Puram PHCs.

4.4.2. Number of inpatients and out patients

One index of the utility of any health facility is the number of persons utilizing that facility. Table 4.6 depicts the situation in the study area.

Table 4.6: No of IP and OP Census Particulars in PHCs and Sub-centres (April 2013-Sept 2013)

		OP CASES					TOTAL ALL
S.I No	PHCs	NEW	OLD	Sub-centre	TOTAL	IN-PATIENT CASES	CASES
1	Jinnaram	27000	1626	7200	35826	210	36036
2	Gummadidala	6480	2160	6300	14940	147	15087
3	Kanukunta	5400	1440	1256	8096	101	8197
4	RC Puram	16008	2533	6184	24725	348	25073
5	Bhanoor	16896	10674	47706	75276	249	75525
6	Munipally	12612	324	6900	19836	330	20166
7	Kandi	21600	3390	81000	105990	256	106246
8	Kondapur	22044	9624	3100	34768	576	35344
9	Athmakur	19314	2930	69165	91409	237	91646
	Total	**147354**	**34701**	**228811**	**410866**	**2454**	**413320**

Sources: OPD Register from Pharmacist of PHCs
Note: Data from table 4.6 to related to 6months only, not for full year.

It was found from the data of 4.6 that the number of outpatients heavily outnumbered that of the inpatients. When the relative distribution of cases handled by the PHCs/Sub-centres were considered, Kandi (25.71%), Athmakur (22.17%) and Bhanoor (18.27%) were found to dominate. At the lower end of the spectrum were: Kanukunta (1.98%), Gummadidala (3.65%) and Munipally (4.88%). This suggests that all these medical facilities did not have a similar utilization record. Patients who visited during the months of April and September are less than what the target was put to PHC for the month (about 6000 patients in OPD). During the month of June, more patients visited, because Chikungunya was prevailed in the Mandal. And most of the cases were looked at by Para – medical staff rather than by the doctor. The epidemic was continued in the month of August but the cases were decreased due to the absence of the doctor. For almost whole month, it was told by patients that they started visiting PMPs for private treatment by spending so much money. They left with no option except visiting RMP rather than going to the PHC though cost is most of the inpatients include general patients and who come for delivery or family planning operation. Inpatients were more the month of April than in May because of chikungunya and fever.

4.4.3. MCH Performance in different PHCs during April 2013-Sept 2013

In recent times, a lot is being spoken about the health of pregnant women and the need for ensuring a safe delivery for such women. Data from Table 4.7 will give an idea about the performance of the PHCs in the study area.

Table 4.7: MCH Performance in Different PHCs (During April 2013-Sept 2013)

PHC NAME	Indicator	Total ANC registration	ANC 3 check up	Institutional delivery	PNC 3 check up	Total
	Yearly Target	632	632	574	574	2412
	Proportionate Target	315	315	287	287	1204
	Achievement	398	298	334	326	1356
1. Jinnaram	Percentage	126	95	116	114	113
	Yearly Target	632	630	324	573	2159
	Proportionate Target	316	315	164	285	1080
	Achievement	398	390	324	334	1446
2.Gummadidala	Percentage	126	124	198	117	134
	Yearly target	502	502	483	476	1963
	Proportionate Target	251	251	242	238	982
	Achievement	232	228	228	225	913
3.Kanukunta	Percentage	92	91	94	95	93
	Yearly Target	1792	1792	1629	1629	6842
	proportionate Target	896	896	814	814	3420
	Achievement	890	705	680	688	2963
4.RC Puram	Percentage	99	79	84	85	87
	Yearly Target	2544	2544	2318	2318	9724
	proportionate Target	1272	1272	1159	1159	4862
	Achievement	1286	1278	1086	1075	4725
5.Bhanoor	Percentage	101	100	94	93	97
	Yearly Target	868	868	842	840	3418
	Proportionate Target	434	434	421	420	1709
	Achievement	699	689	555	324	2267
6.Munipally	Percentage	161	159	132	77	133
	Yearly Target	2380	2380	2320	1980	9060
	Proportionate Target	1190	1190	1160	990	4530
	Achievement	1046	899	884	837	3666
7.Kandi	Percentage	88	76	76	85	81
	Yearly Target	1264	1264	1190	1190	4908
	Proportionate Target	632	632	628	624	2516
	Achievement	659	608	659	612	2538
8.Kondapur	Percentage	104	96	105	98	101
	Yearly Target	868	868	842	840	3418
	Proportionate Target	977	977	888	881	3723
	Achievement	447	402	592	432	1873
9.Athmakur	Achievement%	46	41	67	49	50

Source: field work.

It is clear from the data of Table 4.7 that while some PHCs have performed exceedingly well and have even exceeded the set targets under most of the indicators Whereas, Kandi and Athmakur have performed poorly against all the indicators. Also, one cannot fail to notice an almost steady decline in number as one proceeds from one indicator to the next. For instance, the number of those registering for ANC is much more than those opting for

institutional delivery. A possible reason for this state of affairs is that the PHCs have not been able to fully convince such women about the equal importance of the subsequent steps in the MCH process.

4.4.4 Deliveries under the jurisdiction of the PHCs (During April 2013 to Sept 2013)

A very noticeable fact, even in rural areas, is that more and more pregnant women are opting for institutional deliveries. A possible reason for this is the growing realization that deliveries by untrained dais can be unsafe. On the other hand, hospitals have better facilities like essential equipment and medicines to deal with emergency cases.

The table 4.8 gives the number of deliveries done at PHCs.

Table 4.8: No of Deliveries under jurisdiction of the PHCs as on (April 2013-Sept 2013)

		Yearly Target	Proportionate Target	Achieved			Total	Percentage
S.I No	PHC NAME			Deliveries in PHC	In Govt Hospital	Home Deliveries		
1	Jinnaram	574	287	47	277	10	334	116%
2	Gummadidala	324	164	36	278	10	324	198%
3	Kanukunta	483	242	13	210	5	228	94%
4	RC Puram	1629	814	32	640	8	680	84%
5	Bhanoor	2318	1159	86	879	121	1086	94%
6	Munipally	842	421	25	517	13	555	132%
7	Kandi	2320	1160	72	662	150	884	76%
8	Kondapur	1190	628	58	414	187	659	105%
9	Athmakur	1776	888	42	398	152	592	67%
	G.TOTAL	**11456**	**5763**	**411**	**4275**	**656**	**5342**	**93%**

Source: Office records (PHC) 2013-14

While it is clear that the maximum number of deliveries in the case of all the PHCs were in government hospitals, one cannot totally ignore the fact that significant number of deliveries were done at home in the case of Bhanoor, Kandi, Kondapur and Athmakur. In fact, the numbers here exceeded those in the respective PHCs. Usually normal deliveries are done in the PHCs and complex cases are referred to Area Hospital in Sangareddy town. Data show that less delivery were done in PHCs and other government hospital when compared to nursing homes. It indicates that PHCs and other government hospitals are far behind nursing homes in attracting people for institutional deliveries. It shows the inability of the ANMs to encourage institutional deliveries in the remote villages.

4.4.5 Achievement on Immunization and ANC (Natal Care) under Jurisdiction of the PHCs (April 2013-Sept 2013)

Immunization and ANC are important elements of any health care programme. The table 4.9 depicts the progress achieved by the PHCs under study.

Table 4.9: Achievement on Immunization and ANC (Natal Care) under Jurisdiction of the PHCs (April 2013-Sept 2013)

PHC NAME	Indicator	ANC	IMMUNIZATION	TOTAL
	Yearly Target	632	539	1171
	Proportionate Target	315	269	584
	Achievement	398	318	716
1. Jinnaram	Percentage	126	118	123
	Yearly Target	632	530	1162
	Proportionate Target	316	265	581
	Achievement	398	540	938
2.Gummadidala	Percentage	126	204	161
	Yearly Target	502	250	752
	Proportionate Target	251	125	376
	Achievement	232	167	399
3.Kanukunta	Percentage	92	134	106
	Yearly Target	1792	1536	3328
	Proportionate Target	896	768	1664
	Achievement	890	1002	1892
4.RC Puram	Percentage	99	130	114
	Yearly Target	2544	2170	4714
	Proportionate Target	1272	1085	2357
	Achievement	1286	5425	1829
5.Bhanoor	Percentage	101	50	78
	Yearly Target	868	1128	1996
	Proportionate Target	434	564	998
	Achievement	699	306	1005
6.Munipally	Percentage	161	54	101
	Yearly Target	2380	2040	4420
	Proportionate Target	1190	1020	2210
	Achievement	1046	1029	2075
7.Kandi	Percentage	88	101	94
	Yearly Target	1264	1130	2394
	Target	632	565	1197
	Achievement	659	625	1284
8.Kondapur	Percentage	104	111	107
	Yearly Target	1954	1850	3804
	Proportionate Target	977	925	1902
	Achievement	447	940	1387
9.Athmakur	Percentage	46	102	73

Source: Collected from MPHO and Pharmacy in PHCs

It can be seen that the PHCs recorded varying degrees of achievement. For instance, Gummadidala and Jinnaram significantly exceeded the set targets for both ANC and immunization. However, Bhanoor and Munipally could achieve only about 50% of the targets set for immunization. Athmakur PHC was found to perform very poorly with regard to ANC, since it achieved only 46% of the set target. Infant from 0-5 years are immunized to protect them from BCG, DPT, Epidemics, DT and Polio. In addition to that, immunization camps are held in every school once in an every year and children from age group of 5, 10 and 15 years are immunized. The data from Table 4.9 shows that the percent of immunization has been decreased because no camps were held from April to September. Pregnant women are given ANC (Anti Natal Care) to protect from tetanus in all sub-centres by the ANMs.The concerned medical authorities need to take stock of the on-ground situation in the PHCs and ensure that the laggard PHCs perform much better to attain or exceed the set targets.

4.4.6. Immunization Performance in Different PHCs (April 2013-Sept 2013)

Many health issues can be prevented by timely immunisation for the children and women. The Table 4.10 presents the performance of the various PHCs under study.

Table 4.10: Immunization Performance in Different PHCs (April 2013-Sept 2013)

PHC NAME	Indicator	TT mother	DPT 3	polio 3	BCG	Measles	Fully Immunized	TOTAL
	Yearly Target	632	475	475	539	539	539	3199
	Proportionate Target	316	238	238	269	269	269	1599
	Achievement	286	318	286	206	460	318	1874
1. Jinnaram	Percentage	91	134	12	77	171	118	117
	Yearly Target	539	539	539	539	539	530	3225
	Proportionate Target	269	269	269	269	269	265	1610
	Achievement	559	559	559	386	625	540	3228
2.Gummadidala	Percentage	208	208	208	143	232	204	200
	Yearly Target	240	246	246	250	250	250	1482
	Proportionate Target	120	123	123	125	125	125	741
	Achievement	124	141	141	124	154	167	851
3.Kanukunta	Percentage	103	115	115	99	123	134	115
	Yearly Target	1792	1536	1536	1536	1536	1536	9472
	Proportionate Target	896	768	768	768	768	768	4736
	Achievement	890	847	847	679	847	1002	5112
4.RC Puram	Percentage	99	11	11	88	11	13	108
	Yearly Target	2170	2170	2170	2170	2170	2170	13020
	Proportionate Target	1085	1085	1085	1085	1085	1085	6510
	Achievement	543	543	543	543	543	543	3255
5.Bhanoor	Percentage	5	5	5	5	5	5	5
	Yearly Target	1736	1482	1306	1482	1482	1128	8616
	Proportionate Target	868	741	653	741	741	564	4308
	Achievement	699	692	609	527	671	306	3504
6.Munipally	Percentage	81	93	93	71	91	54	81
	Yearly Target	2380	2040	2040	2040	2040	2040	12580
	Proportionate Target	1190	1020	1020	1020	1020	1020	6290
	Achievement	899	1028	1028	868	1029	1029	5881
7.Kandi	Percentage	76	101	101	85	101	101	93
	Yearly Target	1130	1130	1130	972	1050	1130	6542
	Proportionate Target	565	565	565	486	525	565	3271
	Achievement	597	672	672	424	619	625	3609
8.Kondapur	Percentage	106	119	119	87	118	111	11
	Yearly Target	1850	1850	1850	875	1850	1850	10125
	Proportionate Target	925	925	925	438	925	925	5063
	Achievement	895	953	932	386	920	940	5026
9.Athmakur	Percentage	97	103	101	88	99	102	99

Sources: PHC register 2013-14

All nine PHCs have achieved the target of 100% for immunization. The PHCs under the Health Programmes from April2013 to September 2013 indicate that the services under the Immunization programme listed in the table. It is Gummadidala PHC achieved

more than the target i.e. 200% followed by Jinnaram 117%, Kanukunta 115%, and RC Puram 108% and Kondapur 110%. This indicates that these five PHCs have achieved more than their target in providing the services of immunization programme, where as the rest PHCs have not achieved cent percent target.

4.4.7. No of Family planning operations (FPOs) conducted under the jurisdiction of the PHCs (April-2013-Sept-2013)

A very positive development, even in rural areas, in recent times is the growing awareness about small family norms. No wonder, more and more families are adopting birth control measures. The data of Table 4.11 shows that the family planning operations conducted under the jurisdiction of the PHCs in the study area during the period April to September 2013.

Table 4.11: No of Family planning operations (FPOs) conducted under the jurisdiction of the PHCs (April-2013-Sept-2013)

		Target	ACHIEVED			TOTAL	
S.I No	PHC NAME		FPO in PHC	Nursing Home	Government Hospital		PERCENTAGE
1	Jinnaram	115	26	11	85	122	106
2	Gummadidala	115	7	10	66	83	72
3	Kanukunta	120	9	8	62	79	66
4	RC Puram	338	21	0	178	199	59
5	Bhanoor	554	65	61	98	224	40
6	Munipally	486	54	91	701	846	174
7	Kandi	490	48	51	283	382	78
8	Kondapur	1211	114	89	342	545	45
9	Athmakur	202	58	31	283	372	184
	G.TOTAL	3631	402	352	2098	2852	79

Source: Office of PHCs 2013 to 2014

The data from Table 4.11 shows that family planning operations were done more in the PHC and government hospital than in Nursing Home except in the month of April. Family planning operations (FPO) were not done in the month of September due to non-availability of doctors in the PHCs. When a comparison was made between family planning operations and institutional deliveries in government hospitals and private hospitals, figures show that people are coming to government hospitals for family planning operations and they prefer private hospital for deliveries. It indicates that the

complexity involved in during delivery may be the reason for going to private hospital for delivery.

It can be seen that Athmakur (184%), Munipally (174%) and Jinnaram (106%) PHCs exceeded the set targets. However, Bhanoor (40%), Kondapur (45%), RC Puram (59%) Kanukunta (66%), Gummadidala (72%) and Kandi (78%) PHCs were below the targets set. This indicates that a lot more needs to be done to create proper awareness regarding family planning operations in the latter PHCs

4.4.8. Family planning methods

Today, a number of achievements of different birth control methods are available for couples. The data of Table 4.12 indicates the target of these measures in the study area.

Table 4.12: Family Planning Services in Different PHCs Target and Achievements of Health Programmes (April 2013-Sept 2013).

PHC NAME	Indicator	Sterilization	IUD	Oral pills	Condoms	TOTAL
	Yearly Target	231	149	128	298	806
	Proportionate Target	115	74	64	149	402
	Achievement	122	52	71	53	298
1. Jinnaram	percentage	106	70	111	36	74
	Yearly target	231	149	128	228	736
	Proportionate Target	115	74	64	114	367
	Achievement	83	51	75	119	328
2.Gummadidala	percentage	72	69	117	104	89
	Yearly target	240	72	65	120	497
	Proportionate Target	120	36	32	60	2485
	Achievement	79	48	50	65	242
3.Kanukunta	Percentage	66	133	154	108	97
	Yearly Target	677	406	515	785	2383
	Proportionate Target	338	203	257	392	1190
	Achievement	199	215	255	409	1078
4.RC Puram	Percentage	59	106	99	104	91
	Yearly target	1119	600	516	900	3135
	Proportionate Target	554	300	257	450	1561
	Achievement	224	150	213	479	1066
5.Bhanoor	Percentage	40	50	83	106	68
	Yearly Target	972	362	952	862	3148
6.Munipally	Proportionate	486	181	476	431	1574

	Target					
	Achievement	846	186	576	336	1944
	Percentage	174	103	121	78	124
	Yearly Target	980	560	570	1100	3210
	Proportionate Target	490	280	285	550	1605
	Achievement	382	141	144	325	992
7.Kandi	Percentage	78	50	50	59	62
	Yearly Target	2422	158	472	136	3188
	Proportionate Target	1211	79	236	68	1594
	Achievement	545	42	203	75	865
8.Kondapur	Percentage	45	53	86	110	54
	Yearly Target	404	264	324	492	1484
	Proportionate Target	202	132	162	246	742
	Achievement	372	138	211	187	908
9.Athmakur	Percentage	184	105	130	76	122

Source: Registers from the Staff Nurses of the PHCs 2013-14

Data from Table 4.12 shows that no uniform pattern could be discerned about the relative popularity of the various family planning methods. For instance, in Jinnaram (106%), Munipally (174%) and Athmakur (184%) more than 100% of the target set for sterilization was achieved. However, this was not the case in Gummadidala (72%), Kanukunta (66%), RC Puram (59%), Bhanoor (40%), Kandi (78%) and Kondapur (45%).

As regard IUD, the better performing PHCs were: Kanukunta (133%), RC Puram (106%), Munipally (103%) and Athmakur (105%); while the laggards were: Jinnaram (70%), Gummadidala (69%), Bhanoor (50%), Kandi (50%) and Kondapur (53%). Orals Pills were found to be quite popular in all the PHCs, except in Bhanoor (83%), Kandi (50%) and Kondapur (86%).

In the case of condoms, the achieved target was as low as 36% in Jinnaram, 78% in Munipally, 59% in Kandi and 76% in Athmakur. The conclusion that can be drawn is that varying degrees of awareness have been created by the respective PHCs about the various family planning methods. This highlights the need for even more sustained levels of awareness creation in such areas.

4.4.9. Infant Deaths and Maternal Deaths under the jurisdiction of the PHCs (April-2013- Sept-2013)

High maternal and infant mortality rates are issues of grave concern, especially when rapid strides have been taken in the medical field to minimize such cases. The Table 4.13 will illustrate the position in the study area.

Table 4.13: Infant Deaths and Maternal Deaths under the jurisdiction of the PHCs (April-2013- Sept-2013)

S.I No	PHC NAME	Infant Deaths	Maternal Deaths	TOTAL
1	Jinnaram	6	1	7
2	Gummadidala	3	2	5
3	Kanukunta	18	13	31
4	RC Puram	6	1	7
5	Bhanoor	0	1	1
6	Munipally	3	1	4
7	Kandi	3	2	5
8	Kondapur	1	1	2
9	Athmakur	9	1	10
	TOTAL	**49**	**23**	**72**

Source: PHCs Records with the Staff Nurses 2013-14

It is rather alarming that all the nine PHCs reported cases of both types. It is also shocking that, in a period of six months, a total of 49 infant deaths and 23 maternal deaths occurred in these PHCs. The concerned medical authorities need to look at this issue seriously and take urgent action to prevent instances of such a magnitude recurring. One cannot also ignore the fact that Kanukunta PHC recorded 18 infant deaths and 13 maternal deaths. Maternal death in the month of May but the reasons for such high deaths are not known.

4.5. Conclusion

The fourth chapter describes various services provided by the nine PHCs under study, during the period April-September 2013-13 (6 months only). Based on the services provided by PHCs, relative performance of these PHCs can be analyzed. The sub-centres being the most peripheral units of health care delivery caters mainly to preventive and primitive care with some curative services for minor ailments such as fever, acute respiratory illnesses, diarrhea etc., being provided by auxiliary nurse midwives (ANM) and community health workers (CHW). PHCs are referral centres for sub-centres and are first contact point between community and the qualified medical doctors in India. As per Indian Public Health Standards (IPHS), a PHC caters to a population of around 20,000 in hilly, tribal and desert areas while 30,000 in better accessible plain areas. It consists of medical officers, staff nurses, health supervisors like lady health workers, head staff nurse and supporting staff to provide outpatient and inpatient care.

Each PHC was given some target for each activity. The achievements of the PHCs with respect to targets of different programme achievements are mixed. For those which could not achieve the targets, special attention has to be paid in finding the problems and find solutions for them.

CHAPTER 5

Distribution of Expenditure of Primary Health Centres Across major Activities

5.1 Introduction

Each primary health centre gets funds under various heads from the State government budget through District Medical and Health Office (DM&HO). This chapter analyses the data on expenditure available from DM&HO records and PHCs records.

The cost accounting method is used. This method is now recognized as one of the popular methods that help in management of hospitals. The cost data are compiled in the form of a number of statements of accounts of for budget and audit the purpose. Recommendations have also been made in the past to the hospital authorities either from the Director General of Health Services or from Directors of Health Services of the respective states to work out a few indices to measure the efficiency of hospitals. Some of the cost indices are the cost of medicines per patient, the cost of diet per patient, etc.

5.2 Allocation of resources across different activities.

Cost accounting method is used to examine the distribution of costs to various activities at the Primary Health Center (PHC) level.

The following definitions were used to calculate the costs:

5.3 Cost

The economic cost is defined as the value of resources used to produce rather, counting a specific health service or a set of services (As a health programme).

Classification of inputs:

For estimating cost of health programmes all inputs were classified into two groups, non-recurrent (capital) costs and recurring costs. In short, non-recurrent costs were defined as those inputs which had long term financial commitments (more than one

year). While recurrent costs are those inputs which had financial commitments only in the accounting year.

5.4. Capital Costs: These are divided into the following:

A. The items included in capital expenditure under, Tilling, Fixing gate for Door, Changing bulbs, Routine repairs, Tiles stones fixing, Consumables, Drainage pipeline replacing, Replacing taps and tubes etc,.

B. Building space: Health centers, training schools, administrative office, storage facilities.

C. Equipment: Refregigetors, sterilizers, manufacturing machinery, scales, other equipment.

D. Social mobilization, (non recurrent): Social mobilization activity, that is promotion, publicity, campaigns. IEC (Information, Education, Communication) activity.

In the above list, data as buildings and vehicles was not available properly in the PHC records, so these two items were not included in the analysis.

5.5 Recurring Costs: These are divided into three types.

A. Personnel (all types): Medical Officers, supervisors, health workers, administrators, technicians, consultants, casual labour. etc.,

B. Supplies: Drugs, vaccines, syringes, small equipment

C. Operation and maintenance: Petrol, diesel, laundry, tyres, spare parts, registration, insurance, etc.,

D. Building Operation and Maintenance: Electricity, water, fuel, telephone, cleaning, painting, repairs to electrical supply/appliances, plumbing, etc.,

E. Training: Recurrent expenditure on short in service courses.

5.6 Method used for the cost analysis was as follows

The data on Expenditure of various activities was collected from the records of each PHC. Then the expenditure was grouped into 5 functions/activities of PHC. These are Illness (ILL), Maternal and Child Health (MCH), Family Planning (FP), other Health Programmes and Environmental Sanitation. Again expenditure each activity is sub divided into capital expenditure and recurring expenditure. Data on costs of drugs and other expenditure was obtained from budget statements and records. of PHCs. The PHCs records also provided information on salaries and allowances of the PHC workers. The cost was divided according to activities performed in the PHC itself and in the field (sub-centres).

5.7 Distribution of Financial Resources by various Activities in PHCs

The costs were apportioned to each activity, namely, Illness (ILL), Maternal Child Health (MCH), Family Planning (FP), Communicable Disease Control (DCD), and Environmental Sanitation (ENV). With regard to financial resources the data was collected for three financial years; i.e 2011-12 to 2013-14, the financial resources was classified into five functions and again for each function the resources are sub divided into Capital and Recurring.

The data of Tables 5.1 to 5.3 give proportionate distribution of expenditure (both capital and recurrent) on various activities of the PHCs during the years 2011-12, 2012-13 and 2013-14. The focus would be on ascertaining the items on which maximum and minimum expenditure was incurred by the PHCs. An attempt would also be made to find out whether there were major departures in the related priority accorded to the various activities undertaken by the individual PHC.

Table 5.1: Distribution of Total Expenditure of PHCs by functions in 2011-12 (in Rupees'000)

		TOTAL EXPENDITURE						SERVICE WISE %					
Type of Expenditure	**PHC**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**
Capital Expenditure	Jinnaram	32299	20930	31840	11930	6800	**103799**	31.12	20.16	30.67	11.49	6.56	**100**
	Gummadidala	28059	31140	7860	6500	6960	**80519**	34.85	38.67	9.76	8.07	8.64	**100**
	Kanukunta	35829	23860	35310	11700	6750	**113449**	31.58	21.03	31.12	10.31	5.95	**100**
	RC Puram	38175	49970	11010	6520	11640	**117315**	32.54	42.59	9.38	5.56	9.92	**100**
	Bhanoor	35290	26750	25180	14800	16400	**118420**	29.80	22.59	21.26	12.50	13.85	**100**
	Munipally	31975	68820	39100	3910	6600	**150405**	21.26	45.76	26.00	2.60	4.39	**100**
	Kandi	51749	22816	30376	14200	3900	**123041**	42.06	18.54	24.69	11.54	3.17	**100**
	Kondapur	38495	24030	29575	9415	4376	**105891**	36.35	22.69	27.93	8.89	4.13	**100**
	Athmakur	33992	60108	8140	9590	9570	**121400**	28.00	49.51	6.71	7.90	7.88	**100**
TOTAL		**325863**	**328424**	**218391**	**88565**	**72996**	**1034239**	**31.51**	**31.76**	**21.12**	**8.56**	**7.06**	**100**
AVG		**36207**	**36492**	**24266**	**9841**	**8111**	**114915**						
Recurring Expenditure	Jinnaram	56942	162860	30589	96905	10755	**358051**	15.90	45.49	8.54	27.06	3.00	**100**
	Gummadidala	47025	105336	74651	50294	6710	**284016**	16.56	37.09	26.28	17.71	2.36	**100**
	Kanukunta	76636	74727	25578	29510	5250	**211701**	36.20	35.30	12.08	13.94	2.48	**100**
	RC Puram	54611	174176	41447	60980	10420	**341634**	15.99	50.98	12.13	17.85	3.05	**100**
	Bhanoor	134390	228629	51360	147690	17990	**580059**	23.17	39.41	8.85	25.46	3.10	**100**
	Munipally	35670	196736	11260	266971	3250	**513887**	6.94	38.28	2.19	51.95	0.63	**100**
	Kandi	84947	379945	88469	213248	5925	**772534**	11.00	49.18	11.45	27.60	0.77	**100**
	Kondapur	49954	231509	49362	166462	3580	**500867**	9.97	46.22	9.86	33.23	0.71	**100**
	Athmakur	44835	384978	75205	215055	8495	**728568**	6.15	52.84	10.32	29.52	1.17	**100**
TOTAL		**585010**	**1938896**	**447921**	**1247115**	**72375**	**4291317**	**13.63**	**45.18**	**10.44**	**29.06**	**1.69**	**100**
AVG		**65001**	**215433**	**49769**	**138568**	**8042**	**476813**						
Grand Total		910873	2267320	666312	1335680	145371	5325556						
AVG		**101208**	**251924**	**74035**	**148409**	**16152**	**591728**	**17.10**	**42.57**	**12.51**	**25.08**	**2.73**	**100**

Source: Field Work

It can be seen that the maximum capital expenditure in all the nine PHCs was concentrated on Illness (ILL), Maternal and Child Health (MCH) and Family Planning (FP). However, the relative priority among these activities varied from one PHC to another, For instance, illness occupied the top position in Gummadidala, RC Puram, Kondapur, Kandi (where the figure was as high as 42.06%) and Kandi. MCH was found to occupy the 'pole position 'in Gummadidala (38.67%), RC Puram (with 42.59%), Munipally (45.76%) and Athmakur (49.51%). Family planning was found to have a noticeable presence in Jinnaram, Kanukunta, Munipally, Kondapur and Kandi are considered. The resources for Communicable Disease Control (CDC) and Environmental Sanitation (ENV) for the individual PHCs and the all together were found to have been given least priority in the capital expenditure. However, one cannot ignore the fact that 13.85% of the capital expenditure in Bhanoor was spent for Environmental Sanitation.

When the recurrent expenditure on five activities by the PHCs was analyzed, it was found that Environmental Sanitation continued to be given the least priority in all the PHCs. However, one cannot ignore the fact that high importance accorded to Communicable Disease Control which was not the case with capital expenditure in all the PHCs. MCH was found to occupy the highest position in capital expenditure almost all the PHCs. In fact, the figures were as high as 51% (in RC Puram), 49.18% (in Kandi), and 52.84% (in Athmakur). Expenditure on Illness was found to be quite noticeable in Kanukunta (36.20%). In a similar vein, recurrent expenditure on Family Planning (26.28%) was found to be very significant in Gummadidala.

Table 5.2: Distribution of Total Expenditure of PHCs by functions 2012-13 (in Rupees'000)

		TOTAL EXPENDITURE						SERVICE WISE %					
Type of Expenditure	**STATION**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**
Capital Expenditure	Jinnaram	25210	32900	28680	6000	9410	**102200**	24.67	32.19	28.06	5.87	9.21	**100**
	Gummadidala	22515	13670	14500	6300	6790	**63775**	35.30	21.43	22.74	9.88	10.65	**100**
	Kanukunta	31845	30484	14276	7605	5113	**89323**	35.65	34.13	15.98	8.51	5.72	**100**
	RC Puram	56850	26402	10320	10255	82987	**186814**	30.43	14.13	5.52	5.49	44.42	**100**
	Bhanoor	57340	22925	20590	14159	14800	**129814**	44.17	17.66	15.86	10.91	11.40	**100**
	Munipally	174305	17390	3640	5650	4500	**205485**	84.83	8.46	1.77	2.75	2.19	**100**
	Kandi	54282	24470	33475	5450	4600	**122277**	44.39	20.01	27.38	4.46	3.76	**100**
	Kondapur	45174	47555	48235	6130	2420	**149514**	30.21	31.81	32.26	4.10	1.62	**100**
	Athmakur	59272	22895	32842	9130	4750	**128889**	45.99	17.76	25.48	7.08	3.69	**100**
TOTAL		**526793**	**238691**	**206558**	**70679**	**135370**	**1178091**	**44.72**	**20.26**	**17.53**	**6.00**	**11.49**	**100**
AVG		**58533**	**26521**	**22951**	**7853**	**15041**	**130899**						
Recuring Expenditure	Jinnaram	64250	208775	30193	289590	9520	**602328**	10.67	34.66	5.01	48.08	1.58	**100**
	Gummadidala	71656	173149	45952	105170	13055	**408982**	17.52	42.34	11.24	25.72	3.19	**100**
	Kanukunta	59542	81441	43282	229450	4590	**418305**	14.23	19.47	10.35	54.85	1.10	**100**
	RC Puram	65952	352510	76420	93775	13700	**602357**	10.95	58.52	12.69	15.57	2.27	**100**
	Bhanoor	127553	378817	54935	192225	17570	**771100**	16.54	49.13	7.12	24.93	2.28	**100**
	Munipally	41334	269562	53905	105260	13950	**484011**	8.54	55.69	11.14	21.75	2.88	**100**
	Kandi	76925	305779	113350	273975	5225	**775254**	9.92	39.44	14.62	35.34	0.67	**100**
	Kondapur	29769	316895	140866	238302	3305	**729137**	4.08	43.46	19.32	32.68	0.45	**100**
	Athmakur	55122	423904	531272	268770	15120	**1294188**	4.26	32.75	41.05	20.77	1.17	**100**
TOTAL		**592103**	**2510832**	**1090175**	**1796517**	**96035**	**6085662**	**9.73**	**41.26**	**17.91**	**29.52**	**1.58**	**100**
AVG		**65789**	**278981**	**121131**	**199613**	**10671**	**676185**						
GRAND TOTAL		**1118896**	**2749523**	**1296733**	**1867196**	**231405**	**7263753**	**15.40**	**37.85**	**17.85**	**25.71**	**3.19**	**100**
AVG		**124321.78**	**305502.56**	**144081.44**	**207466.22**	**25712**	**807083.67**						

Source: Field Work

The Table 5.2 show that in the case of RC Puram 44.42% of the capital expenditure was spent on Environmental Sanitation (ENV), Bhanoor (11.40%) and Gummadidala (10.65%) and others too were found to have incurred more than 10% of their expenditure on this activity. PHCs devoting a relatively low priority to Environmental Sanitation were: Kondapur (1.62%), Munipally (2.19%), Athmakur (3.69%) and Kandi (3.76%). Thus, it is clear that that the PHCs did not pay similar degree of attention to Environmental Sanitation.

Another fact noticed was less expenditure was incurred on Communicable Disease Control by most PHCs. Only in Bhanoor 10.91% of the capital expenditure was spent on this activity. A very amazing fact that came to light in the case of RC Puram which had spent more than 44% on ENV was that its expenditure on Family Planning was only 5.52%. Also, Munipally PHC had spent only 1.77% of its budget on this activity. However, the PHCs that have spent a considerable amount on this activity were found to be: Kondapur (32.36%), Jinnaram (28.06%), Kandi (27.38%) and Kondapur (25.38%).

If one considers the overall figures, one can see that illness (44.72%) and MCH (20.26%) emerged as the topmost priority activities in most PHCs; the relative importance of these two activities varied from one PHC to another.

It would now be of interest to see whether the 'behavior' in respect of recurring expenditure was similar to that of capital expenditure. It was mentioned that RC Puram has devoted more than 44% of its capital expenditure to environment. However, this was not the case with recurrent expenditure (where the percentage was only 2.27). Even when the expenditure of other PHCs for this activity is examined, it is clear that this enjoyed the least priority among all the activities of all the PHCs. In fact, the overall percentage was as low as 1.58%.

Yet another departure from the trend noticed in the case of CDC is the high priority accorded to it under recurrent expenditure. The figures were as high as 54.85% (in Kanukunta), 48.08% (in Jinnaram), Kandi (35.34%) and Kondapur (32.68%). The overall figure for this activity was 29.52%).

It could also be seen that MCH enjoyed a much higher priority than illness in all the PHCs. Particular mention must be made of RC Puram (where the figure was 58.52%), Munipally (55.69%), Bhanoor (49.13%) and Kondapur (43.46%). The overall figure for all the PHCs taken together was 41.26%. Family Planning was found to enjoy varying degrees of priority. It ranged from a high of 41.05% in Athmakur to a low of 7.12% in Bhanoor. The overall figure for all PHCs to gather was 17.91%.

This suggests that the same degree of attention was not paid to capital and recurring expenditure for the various activities of the PHCs under study. Also, while some PHCs spend more on one activity, this was not the case in other PHCs.

The data of Table 5.3 help us in ascertaining whether the trend and relative priorities exhibited in the earlier years were continued in 2013-14 as well, or whether a different pattern emerged.

Table 5.3: Distribution of Total Expenditure of PHCs by functions 2013-14 (In Rupees'000**)**

		TOTAL EXPENDITURE						SERVICE WISE %					
Type of Expenditure	PHC	ILL	MCH	FP	CDC	ENV	TOTAL	ILL	MCH	FP	CDC	ENV	TOTAL
Capital Expenditure	Jinnaram	59066	16200	26330	5916	4380	111893	52.79	14.48	23.53	5.29	3.91	100
	Gummadidala	21888	16800	7188	6564	9240	61680	35.49	27.24	11.65	10.64	14.98	100
	Kanukunta	16169	12024	7548	4260	3252	43253	37.38	27.80	17.45	9.85	7.52	100
	RC Puram	39893	28596	42534	6768	13404	131194.8	30.41	21.80	32.42	5.16	10.22	100
	Bhanoor	43356	54420	43584	12060	15612	169032	25.65	32.20	25.78	7.13	9.24	100
	Munipally	49872	37116	34230	8118	14138	143474	34.76	25.87	23.86	5.66	9.85	100
	Kandi	70025	30522	42480	16536	3168	1627301	43.03	18.76	26.10	10.16	1.95	100
	Kondapur	38244	51838	14752	22800	3720	131353	29.12	39.46	11.23	17.36	2.83	100
	Athmakur	67109	72108	13464	10452	6732	169865	39.51	42.45	7.93	6.15	3.96	100
TOTAL		405622	319624	232110	93474	73646	1124476	36.07	28.42	20.64	8.31	6.55	100
AVG		45069	35514	25790	10386	8183	124942						
Recurring Expenditure	Jinnaram	86123	129652	15922	149376	7980	389052	22.14	33.33	4.09	38.39	2.05	100
	Gummadidala	116839	81524	34178	102180	4500	339222	34.44	24.03	10.08	30.12	1.33	100
	Kanukunta	84917	81338	44748	278826	4728	494557	17.17	16.45	9.05	56.38	0.96	100
	RC Puram	67458	274144	60157	94476	9624	505859	13.34	54.19	11.89	18.68	1.90	100
	Bhanoor	130088	194765	45205	220140	16680	606878	21.44	32.09	7.45	36.27	2.75	100
	Munipally	60227	314568	112520	333302	10416	831034	7.25	37.85	13.54	40.11	1.25	100
	Kandi	103224	163080	205861	330120	6354	808639	12.77	20.17	25.46	40.82	0.79	100
	Kondapur	114024	341291	53243	226896	9252	744706	15.31	45.83	7.15	30.47	1.24	100
	Athmakur	32404	96379	73696	321620	7056	531155	6.10	18.15	13.87	60.55	1.33	100
TOTAL		795304	1676741	645530	2056937	76590	5251102	15.15	31.93	12.29	39.17	1.46	100
AVG		88367	186305	71726	228549	8510	583456						
Grand Total		1200925	1996364	877640.4	2150411	150236	6375577	18.84	31.31	13.77	33.73	2.36	100
AVG		133436	221818	97516	238935	16693	708397						

Source: Field Work

The data of Table 5.3 shows that illness care (ILL) dominated the capital expenditure in most of the PHCs. The noteworthy PHCs in this regard were: Jinnaram (52.79%), Kandi (43.03%), Athmakur (39.51), Kanukunta (37.38%) and Gummadidala (35.49%). The overall figure for all the PHCs taken together was 36.07%. Capital expenditure on ENV (overall, 6.55%) was noticeable only, in Gummadidala (14.98%), RC Puram (10.22%), Munipally (9.85%) and Bhanoor (9.24%). This suggests that the importance of a clean environment had not yet gained the desired degree of importance in the study area during the period of study. A similar state of affairs could be noticed in the case of CDC (overall, 8.31%), where only Kondapur (17.36%), Gummadidala (10.64%) and Kandi (10.16%) spent more than 10% of their respective budgets on this activity. Percentage of expenditure on Family Planning too was found to vary from one PHC to another. The 'high spenders' on this activity were: RC Puram (32.42%), Kandi (26.10%), Bhanoor (25.78%) and Munipally (23.86%).

It would now be pertinent to examine the situation in respect of recurring expenditure on various activities of the PHCs. At first glance itself one can find that expenditure on CDC (overall 39.17%) dominated the rest in most of the PHCs. The 'leaders' in this regard were: Athmakur (60.55%), Kanukunta (56.38%), Kandi (40.82%) and Munipally (40.11%). Recurrent expenditure on both ENV (overall only 1.46%) and FP (overall, 12.29%) were found to be rather low in almost all the PHCs. Expenditure on MCH (overall 31.93%) was found to be greater than that on illness in most of the PHCs. In fact, the figures in respect of MCH were found to be as high as 54.19% (in RC Puram), 45.83% (in Kondapur) and 37.85% (in Munipally).

Table 5.3.1: Capital and Recurring Expenditure of all 9 PHCs during 2011-12, 2012-13 and 2013-14

YEARS	ILL	MCH	FP	CDC	ENV
2011-2012	910873	2267320	666312	1335680	145371
2012-2013	1118896	2749523	1296733	1867196	231405
2013-2014	1200925	1996364	877640	2150411	150236

Source: Field Work

Chart 5.1: - Capital and Recurring Expenditure of all 9 PHCs during 2011-12, 2012-13 and 2013-14

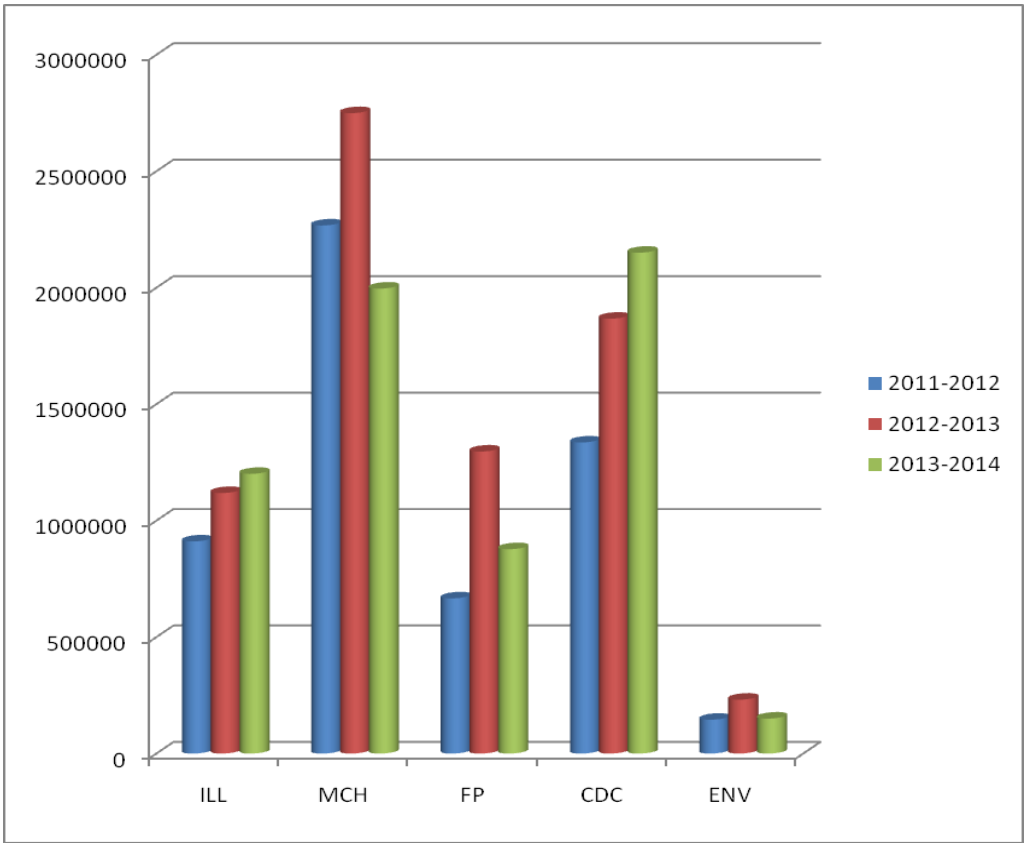


Chart 5.1 given an idea of the total capital and recurring expenditure incurred by all the nine PHCs taken together. This should help one to locate areas of similarity and variation in expenditure on the various functions.

It is clear that in all the three periods, 'Environment' received the least priority. An almost similar position could be seen in the case of Family Planning. The functions that received the maximum attention, in descending order of priority, were: MCH, CDC and Illness care.

5.8 Distribution of function wise expenditure of PHCs

The expenditure collected from the PHC records was divided into two items. The total expenditure at PHC is termed as and the total PHC at sub-centre level are termed as field expenditure.

Table 5.4.1: JINNARAM PHC EXPENDITURE - FIELD EXPENDITURE BY FUNCTIONS 2011-12 to 2013-14 (in Rupees'000**)**

		PHC EXPENDITURE						FIELD EXPENDITURE						PHC + FIELD	TOTAL EXPENDITURE					
Type of Expenditure	Year	ILL	MCH	FP	CDC	ENV	TOTAL	ILL	MCH	FP	CDC	ENV	TOTAL	GRAND TOTAL	ILL	MCH	FP	CDC	ENV	TOTAL
Capital Expenditure	2011-2012	23549	17530	30390	9250	2300	83019	8750	3400	1450	2680	4500	20780	103799	32299	20930	31840	11930	6800	103799
	2012-2013	15930	27550	24930	1900	5710	76020	9280	5350	3750	4100	3700	26180	102200	25210	32900	28680	6000	9410	102200
	2013-2014	42992	6480	17138	1560	1200	69371	16074	9720	9192	4356	3180	42522	111892.8	590665	16200	26330	5916	4380	1118929
Recurring Expenditure	2011-2012	36845	145424	14334	12535	5675	214813	20097	17436	16255	84370	5080	143238	358051	56942	162860	30589	96905	10755	358051
Maintenance and stationery electircity etc	2012-2013	50720	196165	8493	7620	6470	269468	13530	12610	21700	281970	3050	332860	602328	64250	208775	30193	289590	9520	602328
	2013-2014	74125	122464	10042	3072	4140	213842	11998	7188	5880	146304	3840	175210	389052	86123	129652	15922	149376	7980	389052
Total expenditures (Capital + Recurring)	**2011-2012**	60394	162954	44724	21785	7975	297832	28847	20836	17705	87050	9580	164018	461850	89241	183790	62429	108835	17555	461850
	2012-2013	66650	223715	33423	9520	12180	345488	22810	17960	25450	286070	6750	359040	704528	89460	241675	58873	295590	18930	704528
	2013-2014	1171177	1289437	27180	4632	5340	283213	28072	16908	15072	150660	7020	217732	500945	145189	1458517	42252	155292	12360	500945
Percentage distribution of Expenditure (%)=(Expnd/TOTAL Expnd)*100	**2011-2012**	20	55	15	7	3	100	18	13	11	53	6	100		19	40	14	24	4	100
	2012-2013	19	65	10	3	4	100	6	5	7	80	2	100		13	34	8	42	3	100
	2013-2014	41	46	10	2	2	100	13	8	7	69	3	100		29	29	8	31	2	100
Percentage distribution of PHC and Field Expenditure =(Total PHC and Field Expnd/Grand TOTAL PHC and Field Expnd)*100	**2011-2012**	13	35	10	5	2	64	6	5	4	19	2	36	100						
	2012-2013	9	32	5	1	2	49	3	3	4	41	1	51	100						
	2013-2014	23	26	5	1	1	57	6	3	3	30	1	43	100						

Sources: Field Work

Capital Expenditure of the PHCs and its sub – centres during the years 2011-12.2012-13, and 2013-14.

It was found that table 5.4.1, the PHCs generally, incurred larger expenditure then the sub centres under them. Also, the recurring expenditure was in all cases higher than the capital expenditure. This is understandable since capital expenditure is generally a onetime expenditure whereas recurring expenditure is a regular one. Since salaries, supplies have to be attended to on a monthly basis.

Recurring Expenditure of the PHCs and its sub – centres during the years 2011-12.2012-13 and 2013-14.

The next issue of concern is the relative share of the various items of the expenditure during the years 2011-12 to 2013-14. It can be seen that field expenditure on items like illness (ILL) steadily increased during these years, and on some, other activities. When the grand total of the total expenditure was considered, it was seen the amount which was 461,850, thousands in 2011-12, rose to Rs. 704,528, thousands, and fell to in Rs. 500,945, thousands in 2013-14. The conclusion that could be drawn is that Medical issues did not receive same degree of attention in these years.

Relative Priorities Accorded by the PHCs and its Sub – Centres to various Activities during the years 2011-12, 2012-13, and 2013-14.

When the expenditure pattern is examined in percentage terms, it can be seen that Maternal and Child Health (MCH) received the maximum priority in all the three years and Environmental Sanitation (ENV) generally the least. With regards to the sub centres, the maximum attention was paid to Communicable Diseases (CDC). In both cases, illness (ILL) generally occupied the second position.

Distribution of the total Expenditure between the PHCs and its Sub – Centres.

The data shows that of the total expenditure in 2011-12, the main PHCs incurred 64 percent of the expenditure. This decreased to 49 in 2012-13 and increased to 57 in 2013-14.

Data from Table 5.4 (1) shows that in Jinnaram PHC the overall expenditure unit wise for the study period for illness (ILL) was 36.43 % in 2011-12 which had increased to 51.46% by 2012-13 and decreased to 43% in 2013-14. Under Maternal and Child Health (MCH) it was 25.17% in 2011-12, and had increased to 29.81 % for next year and decreased to 25.76%.in 2013-14. For Family Planning (FP) the expenditure was 20.49% in 2011-12 which was gradually declined to 14.39 % by 2013-14. In the case of Communicable Disease (CDC) and Environmental Sanitation (ENV) the expenditures were declined for Communicable Disease (CDC) from 10.75% in 2011-12 to 4.00% in 2013-14 and for Environmental Disease (ENV) from 7.17% to 4.38 by 2013-14.

When we consider the overall expenditure pattern in this PHC, the following facts emerge:

(a) **ILL**. This was 36.43% in 2011-12, which rose to 51.46% in 2012-13, which gradually declined to 43% in 2013-14.

(b) **MCH**. This was 25.17% in 2011-12, which rose to 29.81% in 2012-13, but fell to 25.76% in 2013-14.

(c) **FP**. This was 20.49% in 2011-12, which gradually declined to 14.39% in 2013-14.

(d) **CDC**. This declined from 10.75% in 2011-12 to 4.00% in 2013-14.

(e) **Environmental Sanitation (ENV).** This decreased from 7.17% in 2011-12 to 4.38% in 2013-14.

Table 5.4.2: GUMMADIDALA PHC EXPENDITURE - FIELD EXPENDITURE BY FUNCTIONS 2011- 12 to 2013 -14. (In Rupees'000**)**

		PHC EXPENDITURE						FIELD EXPENDITURE						PHC + FIELD	TOTAL EXPENDITURE					
Type of Expenditure	**year**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**GRAND TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**
	2011-2012	19900	26150	5270	3400	4360	**59080**	8159	4990	2590	3100	2600	21439	**80519**	28059	31140	7860	6500	6960	**80519**
	2012-2013	11450	7480	10590	4290	4000	**37810**	11065	6190	3910	2010	2790	25965	**63775**	22515	13670	14500	6300	6790	**63775**
Capital Expenditure	**2013-2014**	12888	13920	4860	1764	3840	**37272**	9000	2880	2328	4800	5400	24408	**61680**	21888	16800	7188	6564	9240	**61680**
Recurring Expenditure -	**2011-2012**	30905	100806	2064	1460	3140	**138375**	16120	4530	72587	48834	3570	145641	**284016**	47025	105336	74651	50294	6710	**284016**
Maintenance and	**2012-2013**	58546	156401	27112	11170	9055	**262284**	13110	16748	18840	94000	4000	146698	**408982**	71656	173149	45952	105170	13055	**408982**
stationery electircity etc	**2013-2014**	103050	71636.4	14126	2400	1200	**192412.8**	13789	9888	20052	99780	3300	146809.2	**339222**	116839	81524.4	34178	102180	4500	**339222**
	2011-2012	50805	126956	7334	4860	7500	**197455**	24279	9520	75177	51934	6170	167080	**364535**	75084	136476	82511	56794	13670	**364535**
tal expenditures (Capital +	**2012-2013**	69996	163881	37702	15460	13055	**300094**	24175	22938	22750	96010	6790	172663	**472757**	94171	186819	60452	111470	19845	**472757**
Recurring)	**2013-2014**	115938	85556.4	18986.4	4164	5040	**229684.8**	22789.2	12768	22380	104580	8700	171217.2	**400902**	138727	98324	41366	108744	13740	**400902**
PePrcentage distribution	**2011-2012**	26	64	4	2	4	**100**	15	6	45	31	4	100		21	37	23	16	4	100
of Expenditure (%)=(	**2012-2013**	23	55	13	5	4	**100**	14	13	13	56	4	100		20	40	13	24	4	100
Expnd/TOTAL Expnd)*100	**2013-2014**	50	37	8	2	2	**100**	13	7	13	61	5	100		35	25	10	27	3	100
Percentage distribution of	**2011-2012**	14	35	2	1	2	**54**	7	3	21	14	2	46	**100**						
PHC and Field Expenditure	**2012-2013**	15	35	8	3	3	**63**	5	5	5	20	1	37	**100**						
=(Total PHC and Field Expnd/Grand TOTAL PHC and Field Expnd)*100	**2013-2014**	29	21	5	1	1	**57**	6	3	6	26	2	43	**100**						

Source: Field Work

Capital expenditure of the PHCs and its Sub-Centers during the years 2011-12, 2012-13, and 2013-14.

The data from table 5.4.2 shows that as for as capital expenditure is considered, it can be noticed that the total expenditure of the PHCs under all activities was generally more than that of its sub-canters. However, during 2013-14, the sub-centers spend a total of Rs 9000 on illness (ILL) activities as against Rs 13920 by the main PHC. A very glaring fact noticed was the generally decrease in capital expenditure for the activities in these years. For instance, the total capital expenditure of the main PHC, which was Rs 59,080,000 in 2011-12, decrease to Rs 37272 in 2013-14. An almost similar story was found in the case of the total expenditure of the sub-centers taken together. This was Rs 21,439,000 in 2011-12, which rose to Rs 24408 on 2013-14.

Recurring Expenditure of the PHCs and and its sub-centers during the years 2011-12, 2012-13 ad 2013-14.

When the recurrent expenditure is examined, it can be seen that, in a number of cases, the expenditure in 2012-13 was more than that in 2013-14. However, this generally dropped in 2013-14. This is not very understandable since issues like hike in salaries and increase in prices of medicines, etc., should lead to more budgetary allocation in each successive year.

Relative Priorities Accorded by the PHC and its sub-centers to the various Activities during the years 2011-12, 2012-13, and 2013-14.

The next issue that merits some discussion is the relative percentage of expenditure for the various activities. It is seen that under capital expenditure of the main PHC, the years 2011-12 and 2012-13 the maximum focus was given to Maternal and Child Health (MCH) (64% and 55% respectively). However, in 2013-14, Illness care (ILL) occupied the prime position with 50%, followed by Maternal and Child Health (MCH) with 37%. Expenditure on the other three activities was relatively very less. It is clear that Illness care (ILL) and MCH were the prime focus areas of this PHC. However, when the priority

areas of the total sub-centers' are seen, it is clear that Family Planning (FP) (45% in 2011-12, and 13% each in 2012-13 and 2013-14) and Communicable Disease (CDC) (31% in 2011-12, 56% in 2012-13 and 61% in 2013-14) dominated the expenditure than the other activities.

The relative importance accorded by the PHC and its sub-canters to various activities under recurrent expenditure should be the next area of interest. Here too, Environment issues received the least priority. Here too, the overall total expenditure in 2013-14 was lower than that in 2011-12. Yet, one cannot totally ignore the fact that some activities like Maternal and Child Health (MCH), and Communicable Disease (CDC) saw more expenditure in 2013-14 than in 2011-12.

Distribution of the Total Expenditure between the PHC and its sub - centers

Let us now see the relative percentage of the total expenditure between the main PHC and the overall sub-centers' under it. While the expenditure of the PHC was more than that of the total sub-centers, the percentage in the case of the PHC was 54 in 2011-12, 63 in 2012-13 and 57 in 2013-14. This suggests that the relative importance of the PHC and its sub-centers changed from one year to another.

Table 5.4.3: KANUKUNTA PHC EXPENDITURE AND FIELD EXPENDITURE BY FUNCTIONS 2011- 12 to 2013 -14. (in Rupees'000)

		PHC EXPENDITURE						FIELD EXPENDITURE						PHC + FIELD	TOTAL EXPENDITURE					
Type of Expenditure	**year**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**GRAND TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**
Capital Expenditure	2011-2012	23549	17530	30390	9250	2300	83019	12280	6330	4920	2450	4450	30430	113449	35829	23860	35310	11700	6750	113449
	2012-2013	21100	20509	6326	3920	2978	54833	10745	9975	7950	3685	2135	34490	89323	31845	30484	14276	7605	5113	89323
	2013-2014	9948	6840	4440	2280	1452	24960	6221	5184	3108	1980	1800	18293	43253	16169	12024	7548	4260	3252	43253
Recurring Expenditure (Maintenance and stationery , electricity, etc)	2011-2012	61614	67167	10718	3750	2750	145999	15022	7560	14860	25760	2500	65702	211701	76636	74727	25578	29510	5250	211701
	2012-2013	46292	73671	28350	7550	2140	158003	13250	7770	14932	221900	2450	260302	418305	59542	81441	43282	229450	4590	418305
	2013-2014	71021	62621	21696	11226	1848	168412	13896	18718	23052	267600	2880	326146	494557	84917	81338	44748	278826	4728	494557
Total expenditures (Capital + Recurring)	**2011-2012**	85163	84697	41108	13000	5050	229018	27302	13890	19780	28210	6950	96132	325150	112465	98587	60888	41210	12000	325150
	2012-2013	67392	94180	34676	11470	5118	212836	23995	17745	22882	225585	4585	294792	507628	91387	111925	57558	237055	9703	507628
	2013-2014	80969	69461	26136	13506	3300	193372	20117	23902	26160	269580	4680	344438	537810	101086	93362	52296	283086	7980	537810
Percentage distribution of Expenditure (%)=(Expnd/TOTAL Expnd)*100	**2011-2012**	37	37	18	6	2	100	28	14	21	29	7	100		35	30	19	13	4	100
	2012-2013	32	44	16	5	2	100	8	6	8	77	2	100		18	22	11	47	2	100
	2013-2014	42	36	14	7	2	100	6	7	8	78	1	100		19	17	10	53	1	100
=(Total PHC and Field Expnd/Grand TOTAL PHC and Field Expnd)*100	**2011-2012**	26	26	13	4	1.553	70	8	4	6	9	2	30	100						
	2012-2013	13	19	7	2	1.008	42	5	3	5	44	1	58	100						
	2013-2014	15	13	5	3	0.614	36	4	4	5	50	1	64	100						

Sources: Field Work

Capital Expenditure of the PHCs and its sub-centres during the years 2011-12, 2012-13, and 2013-14.

The data from table 5.4.3 show that the capital expenditure under most activities of the PHC in 2013-14 and its sub-canters was generally much lesser that the corresponding figures in 2011-12. For instance, the capital expenditure of the PHC on Communicable Disease (CDC), which was Rs 9,250,000 in 2011-12, fell to Rs. 1,900,000 in 2013-14. In the case of Illness care (ILL), the corresponding figures were Rs. 23,549,000 and Rs 9,948,000 respectively. When the total capital expenditure of the PHC is taken into account, the figure, which was Rs. 83, 0129,000 in 2011-12, fell to Rs 24,960,000 in 2013-14. An almost similar pattern of decline in expenditure between these years on all the activities and the total overall expenditure can also be noticed in the case of sub-centres as well. For instance, the total capital expenditure of the sub-centres, which was Rs 30,420,000 in 2011-12, fell to Rs. 18,293,000 in 2013-14. It is also clear that Illness care (ILL), Maternal and Child Health (MCH) and Family Planning (FP) were the major focus areas of the PHC, as well as the sub-centres taken together.

Recurring Expenditure of the PHCs and its sub-centres during the years 2011-12, 2012-13 and 2013-14

The next issue meriting discussion is regarding the recurring expenditure on the various activities by both the PHC and its constituent sub-centres. It is clear that the main PHC paid greater attention to Illness care (ILL), Maternal and Child Health (MCH) and Family Planning (FP), and relatively lesser to Communicable Disease (CDC) and Environmental issues (ENV). A very significant fact was that even though the total expenditure on the PHC in 2013-14 was lesser than the one in 2011-12, the difference was not much – Rs 145,999,000 in 2011-12, as against Rs. 168,412,000 in 2013-14. Another noticeable fact that came to light was that the sub-centres paid greater attention to Communicable Disease (CDC), followed by Family Planning (FP) and Illness care (ILL), in that order. Another 'departure' from the trend seen in the case of other PHCs studied till now was that the vast increase in the total expenditure of the sub-centres – Rs 65,702,000 (in 2011-12) and Rs 326,146,000 (in 2013-14). Another aspect to be viewed is the relative distribution of the total expenditure in the three years between the PHC and its sub-centres. In 2011-12, it was the PHC Expenditure dominated with 70%. However, in 2012-13, the percentage fell to 42 and in 2013-14, this decreased even more to become 36.

TABLE 5.4.4: R.C PURAM - PHC EXPENDITURE AND FIELD EXPENDITURE BY FUNCTIONS 2011- 12 to 2013 -14. (in Rupees'000)

		PHC EXPENDITURE						FIELD EXPENDITURE						PHC + FIELD	TOTAL EXPENDITURE					
Type of Expenditure	**year**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**GRAND TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**
Capital Expenditure	**2011-2012**	17500	32800	7000	4300	9100	**70700**	20675	17170	4010	2220	2540	**46615**	**117315**	38175	49970	11010	6520	11640	**117315**
	2012-2013	33290	9492	5120	7155	78687	**133744**	23560	16910	5200	3100	4300	**53070**	**186814**	56850	26402	10320	10255	82987	**186814**
	2013-2014	14400	13200	28680	3600	1764	**61644**	25493	15396	13854	3168	11640	**69551**	**131195**	39893	28596	42534	6768	13404	**131195**
Recurring Expenditure (Maintenance and stationery electricity, etc)	**2011-2012**	32585	154105	8760	12790	3350	**211590**	22026	20071	32687	48190	7070	**130044**	**341634**	54611	174176	41447	60980	10420	**341634**
	2012-2013	40972	333330	48510	17485	5750	**446047**	24980	19180	27910	76290	7950	**156310**	**602357**	65952	352510	76420	93775	13700	**602357**
	2013-2014	41094	249882	33865	4596	2760	**332197**	26364	24262	26292	89880	6864	**173662**	**505859**	67458	274144	60157	94476	9624	**505859**
Total expenditures (Capital + Recurring)	**2011-2012**	50085	186905	15760	17090	12450	**282290**	42701	37241	36697	50410	9610	**176659**	**458949**	92786	224146	52457	67500	22060	**458949**
	2012-2013	74262	342822	53630	24640	84437	**579791**	48540	36090	33110	79390	12250	**209380**	**789171**	122802	378912	86740	104030	96687	**789171**
	2013-2014	55494	263082	62545	8196	4524	**393841**	51857	39658	40146	93048	18504	**243212**	**637054**	107351	302740	102691	101244	23028	**637054**
Percentage distribution of Expenditure (%=(Expnd/TOTAL Expnd)*100	**2011-2012**	18	66	6	6	4	**100**	24	21	21	29	5	**100**		20	49	11	15	5	**100**
	2012-2013	13	59	9	4	15	**100**	23	17	16	38	6	**100**		16	48	11	13	12	**100**
	2013-2014	14	67	16	2	1	**100**	21	16	17	38	8	**100**		17	48	16	16	4	**100**
Percentage distribution of PHC and Field Expenditure =(Total PHC and Field Expnd/Grand TOTAL PHC and Field Expnd)*100	**2011-2012**	11	41	3	4	3	**62**	9	8	8	11	2	**38**	**100**						
	2012-2013	9	43	7	3	11	**73**	6	5	4	10	2	**27**	**100**						
	2013-2014	9	41	10	1	1	**62**	8	6	6	15	3	**38**	**100**						

Sources: Field Work

Capital expenditure of the PHCs and its sub-centres during the years 2011-12, 2012-13, and 2013-14.

Data from Table 5.4.4 it can be seen that the capital expenditure on most of the activities of both the PHC and its associated sub-centres registered an increase in 2012-13 over that of 2011-12. However, other than expenditure on Family Planning (FP) by the sub-centres, in majority of the cases, the figures for 2013-14 were lesser than those for 2011-12. Also, the capital expenditure of the sub-centres on family Planning (FP), Environmental issues and the overall total steadily increased from 2011-12 to 2013-14.

Recurring Expenditure of the PHCs and its sub- centres during the years 2011-12, 2012-13 and 2013-14.

When we consider recurring expenditure, under most of the activities (as a departure from the trend exhibited in the case of the PHCs already studied), the figures for 2013-14, in respect of most activities, for both the PHC and the sub-centres, were found to be less than those for 2011-12. However, as in the earlier cases, the figures for 2012-13 were generally higher than those for the other two years. It can be seen that the sub centres Rs173, 662,000 (in 2013-14), and Rs 130,044,000 (in 2011-12).

Relative Priorities Accorded by the PHC and its sub-centres to the various Activities during the years 2011-12, 2012-13 and 2013-14.

When the relative distribution of expenditure for the various activities for all these three years was taken into consideration, Maternal and Child Health (MCH), Illness care (ILL) and Family Planning (FP), in that order were found to be generally of the highest priority for the PHC. However, in 2012-13, Environmental issues (with 15% share) occupied a very high priority for the PHC. When the priorities of the sub-centres are considered, the maximum focus was generally found to be on Communicable Disease (CDC), Illness care (ILL), Maternal and Child Health (MCH) and Family Planning (FP).

Relative Distribution of the Total Expenditure between the PHC and its sub-centres during 2011-12, 2012-13 and 2013-14.

When the relative distribution of expenditure between the PHC and the sub-centres under it is examined it was found that the share of the PHC was 62% in 2011-12, 73% in 2012-13 and 62% in 2013-14.

Table 5.4. 5: BHANOOR - PHC EXPENDITURE AND FIELD EXPENDITURE BY FUNCTIONS 2011- 12 to 2013 -14. (in Rupees'000)

		PHC EXPENDITURE						FIELD EXPENDITURE						PHC + FIELD	TOTAL EXPENDITURE					
Type of Expenditure	year	ILL	MCH	FP	CDC	ENV	TOTAL	ILL	MCH	FP	CDC	ENV	TOTAL	GRAND TOTAL	ILL	MCH	FP	CDC	ENV	TOTAL
	2011-2012	10200	18500	13800	10200	5600	58300	25090	8250	11380	4600	10800	60120	118420	35290	26750	25180	14800	16400	118420
	2012-2013	19965	10050	10290	10359	8700	59364	37375	12875	10300	3800	6100	70450	129814	57340	22925	20590	14159	14800	129814
Capital Expenditure	2013-2014	21900	34344	19440	2280	6852	84816	21456	20076	24144	9780	8760	84216	169032	43356	54420	43584	12060	15612	169032
Recurring Expenditure -	2011-2012	60665	198599	13770	3650	4400	281084	73725	30030	37590	144040	13590	298975	580059	134390	228629	51360	147690	17990	580059
Maintenance and	2012-2013	54460	359397	14035	12290	9120	449302	73093	19420	40900	179935	8450	321798	771100	127553	378817	54935	192225	17570	771100
stationery electircity etc	2013-2014	55237	157541	24205	7284	9480	253747	74851	37224	21000	212856	7200	353131	606878	130088	194765	45205	220140	16680	606878
	2011-2012	70865	217099	27570	13850	10000	339384	98815	38280	48970	148640	24390	359095	698479	169680	255379	76540	162490	34390	698479
otal expenditures (Capital +	2012-2013	74425	369447	24325	22649	17820	508666	110468	32295	51200	183735	14550	392248	900914	184893	401742	75525	206384	32370	900914
Recurring)	2013-2014	77137	191885	43645	9564	16332	338563	96307	57300	45144	222636	15960	437347	775910	173444	249185	88789	232200	32292	775910
PePrcentage distribution of	2011-2012	21	64	8	4	3	100	28	11	14	41	7	100		24	37	11	23	5	100
Expenditure (%)=(	2012-2013	15	73	5	4	4	100	28	8	13	47	4	100		21	45	8	23	4	100
Expnd/TOTAL Expnd)*100	2013-2014	23	57	13	3	5	100	22	13	10	51	4	100		22	32	11	30	4	100
Percentage distribution of	2011-2012	10	31	4	2	1	49	14	5	7	21	3	51	100						
PHC and Field Expenditure	2012-2013	8	41	3	3	2	56	12	4	6	20	2	44	100						
=(Total PHC and Field Expnd/Grand TOTAL PHC and Field Expnd)*100	2013-2014	10	25	6	1	2	44	12	7	6	29	2	56	100						

Sources: Field Work

Capital Expenditure of the PHCs and its sub-centres during the years 2011-12, 2012-13 and 2013-14.

The Data from Table 5.4.5 shows that the trend noticed in the case of the PHCs already studied (where the total capital expenditure of the PHC in 2011-12 was more than that in 2013-14) was found to be reversed in this case. The total capital expenditure increased from Rs. 58,300,000 in 2011-12 to Rs. 59,364,000 in 2012-13 and then to Rs. 84,816,000 in 2013-14. Also, except for Communicable Disease (CDC), the capital expenditure of the PHC on the other activities in 2013-14 was found to be more than that in 2011-12.

When the capital expenditure of the sub-centres is considered, except for Illness care (I LL) and Environmental issues, the figures for 2013-14 were found to be more than those of 2011-12. A similar conclusion could also be drawn regarding the total capital expenditure of the sub-centres.

Recurring Expenditure of the PHCs and its sub-centres during the years 2011-12, 2012-13 and 2013-14.

An examination of the recurring expenditure of both the PHC and the sub-centres under this reveals that under almost all the heads, the figures for 2012-13 were generally more than those for 2013-14.

Relative Priorities Accorded by the PHC and its sub-centres to the various Activities during the years 2011-12, 2012-13 and 2013-14.

If we consider the total expenditure (capital plus recurrent) of the PHCs on the various activities, we can see that, in all the three years, the maximum focus was on Maternal and Child health (MCH), followed by Illness care (ILL) and Family Planning (FP). In the case of the sub-centres, in all the three years, highest priority was accorded to Communicable Disease (CDC), followed by Illness care (ILL), Family Planning (FP) and Maternal and Child Health (MCH).

Distribution of the Total Expenditure between the PHC and its Sub-centres.

The next issue to be considered is the relative distribution of total expenditure between the PHC and its sub-centres. In 2011-12, the percentage spent by the PHC was 49. This rose to 56 in the very next year, but fell to 44 in 2013-14.

Table 5.4.6: Munipally - PHC EXPENDITURE AND FIELD EXPENDITURE BY FUNCTIONS 2011- 12 to 2013 -14. (In Rs' 000)

	MUNIPALLY - PHC AND FIELD EXPENDITURE BY FUNCTIONS																		
		PHC EXPENDITURE						FIELD EXPENDITURE						PHC + FIELD	TOTAL EXPENDITURE					
Type of Expenditure	**year**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**GRAND TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**
Capital Expenditure	2011-2012	11680	53220	27300	1900	5710	99810	20295	15600	11800	2010	890	50595	150405	31975	68820	39100	3910	6600	150405
	2012-2013	87650	12200	1290	4000	2500	107640	86655	5190	2350	1650	2000	97845	205485	174305	17390	3640	5650	4500	205485
	2013-2014	29718	27840	20700	2724	12720	93702	20154	9276	13530	5394	1418	49772	143474	49872	37116	34230	8118	14138	143474
Recurring Expenditure - Maintenance and stationery electircity etc	2011-2012	28667	184925	7470	7620	1250	229932	7003	11811	3790	259351	2000	283955	513887	35670	196736	11260	266971	3250	513887
	2012-2013	23746	255580	15251	6420	7900	308897	17588	13982	38654	98840	6050	175114	484011	41334	269562	53905	105260	13950	484011
	2013-2014	55895	306474	15785	17472	9120	404746	4332	8094	96736	315830	1296	426288	831034	60227	314568	112520	333302	10416	831034
Total expenditures (Capital + Recurring)	2011-2012	40347	238145	34770	9520	6960	329742	27298	27411	15590	261361	2890	334550	664292	67645	265556	50360	270881	9850	664292
	2012-2013	111396	267780	16541	10420	10400	416537	104243	19172	41004	100490	8050	272959	689496	215639	286952	57545	110910	18450	689496
	2013-2014	85613	334314	36485	20196	21840	498448	24486	17370	110266	321224	2714	476060	974508	110099	351684	146750	341420	24554	974508
Percentage distribution of Expenditure (%)=(Expnd/TOTAL Expnd)*100	2011-2012	12	72	11	3	2	100	8	8	5	78	1	100		10	40	8	41	1	100
	2012-2013	27	64	4	3	2	100	38	7	15	37	3	100		31	42	8	16	3	100
	2013-2014	17	67	7	4	4	100	5	4	23	67	1	100		11	36	15	35	3	100
Percentage distribution of PHC and Field Expenditure =(Total PHC and Field Expnd/Grand TOTAL PHC and Field Expnd)*100	2011-2012	6	36	5	1	1	50	4	4	2	39	0	50	100						
	2012-2013	16	39	2	2	2	60	15	3	6	15	1	40	100						
	2013-2014	9	34	4	2	2	51	3	2	11	33	0	49	100						

Source: Field Work

Capital expenditure of the PHC and its sub-centres

Data from table 5.4 6 show that the capital expenditure of the PHC under various activities, we can see that even though and the total expenditure for 2012-13 was more than that for the other two years, and also that the PHC expenditure for 2011-12 was more than that for 2013-14, Activities like Illness care (ILL) and Environmental issues garnered the maximum share in 2013-14. Also, the total capital expenditure was the highest in 2012-13. Interestingly, the expenditure on activities like Family Planning (FP) and Communicable Disease (CDC) during 2013-14 was more than that in the other two years.

Recurrent Expenditure of the PHC and its sub-centres

When recurrent Expenditure of the PHC and of the sub-centres was examined it was found that the total expenditure of the PHC was found to be steadily increasing from Rs. 229,932,000 in 2011-12 to Rs. 308,897,000 in 2012-13 and then to Rs. 404,746,000 in 2013-14. One could also find a significant increase on the spending on Illness care (ILL) in Communicable Disease (CDC) in 2013-14 over the corresponding figures for 2011-12.

Main Focus areas of the PHC and its sub-centres

In all the three years, the major focus area of the PHC was Maternal and Child Health (MCH), followed by Illness care (ILL) and Family Planning (FP). The prime focus area for the filed expenditure in 2011-12 and 2013-14 was Communicable Disease (CDC). In 2012-13, it was Illness care (ILL). Family Planning (FP) was found to be generally occupying the second position.

Relative Proportion of the total Expenditure between the PHC and the sub-centres.

In 2011-12 The Relative Percentage share of the total Expenditure between the PHC and the sub-centres. Found to be, 50:50. However, in 2012-13, the distribution was 60:40. This changed to 51:49 in 2013-14.

Tale 5.4.7: Kandi - PHC EXPENDITURE AND FIELD EXPENDITURE BY FUNCTIONS 2011-12 to 2013-14 (In Rs' 000)

		PHC EXPENDITURE						FIELD EXPENDITURE						PHC + FIELD	TOTAL EXPENDITURE					
Type of Expenditure	**Year**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**	**GRAND TOTAL**	**ILL**	**MCH**	**FP**	**CDC**	**ENV**	**TOTAL**
Capital Expenditure	2011-2012	43899	13605	14240	4350	2400	78494	7850	9211	16136	9850	1500	44547	123041	51749	22816	30376	14200	3900	123041
	2012-2013	46750	15460	16230	4400	2900	85740	7532	9010	17245	1050	1700	36537	122277	54282	24470	33475	5450	4600	122277
	2013-2014	60240	20880	21600	5712	1560	109992	9785	9642	20880	10824	1608	52739	162731	70025	30522	42480	16536	3168	162731
Recurring Expenditure (Maintenance and stationery, electricity etc)	2011-2012	80567	357265	33300	10260	2800	484192	4380	22680	55169	202988	3125	288342	772534	84947	379945	88469	213248	5925	772534
	2012-2013	72355	280956	48957	12265	2250	416783	4570	24823	64393	261710	2975	358471	775254	76925	305779	113350	273975	5225	775254
	2013-2014	97524	133026	60516	12360	1980	305406	5700	30054	145345	317760	4374	503233	808639	103224	163080	205861	330120	6354	808639
Total expenditures (Capital + Recurring)	2011-2012	124466	370870	47540	14610	5200	562686	12230	31891	71305	212838	4625	332889	895575	136696	402761	118845	227448	9825	895575
	2012-2013	119105	296416	65187	16665	5150	502523	12102	33833	81638	262760	4675	395008	897531	131207	330249	146825	279425	9825	897531
	2013-2014	157764	153906	82116	18072	3540	415398	15485	39696	166225	328584	5982	555972	971370	173249	193602	248341	346656	9522	971370
Percentage distribution of Expenditure (%)=(Expnd/TOTAL Expnd)*100	2011-2012	22	66	8	3	1	100	4	10	21	64	1	100		15	45	13	25	1	100
	2012-2013	24	59	13	3	1	100	3	9	21	67	1	100		15	37	16	31	1	100
	2013-2014	38	37	20	4	1	100	3	7	30	59	1	100		18	20	26	36	1	100
Percentage distribution of PHC and Field Expenditure =(Total PHC and Field Expnd/Grand TOTAL PHC and Field Expnd)*100	2011-2012	14	41	5	2	1	63	1	4	8	24	1	37	100						
	2012-2013	13	33	7	2	1	56	1	4	9	29	1	44	100						
	2013-2014	16	16	8	2	0	43	2	4	17	34	1	57	100						

Source**: Field Work**

Capital Expenditure on various Activities by the PHC and its Sub-centres during 2011-12, 2012-13 and 2013-14.

It can be seen from the data of Table 5.4.7 that the capital expenditure, as also the total expenditure, of the main PHC progressively increased for most of the activities from 2011-12 to 2013-14. This type of pattern was, however, not noticed in the case of the expenditure of the sub-centres. Also, as brought out in the discussion on the PHCs already examined, the expenditure on the various activities during 2012-13 was generally more than that in the other two years.

Recurrent Expenditure on various Activities by the PHC and its Sub-centres during 2011-12, 2012-13 and 2013-14.

The expenditure of the main PHC on a number of activities during 2011-12 was more than that of the other two years. However, there was a progressive decrease in the total expenditure from Rs. 109,992,000 in 2011-12, to 416,783,000 in 2012-13 and Rs. 305,406,000 in 2013-14. A very significant finding in the case of the sub-centres was that, for most of the activities, the expenditure increase from one year to another. The total expenditure, which was Rs. 288,342,000 in 2011-12, rose to Rs. 358,471,000 in 2012-13 and then to 503,233,000 in 2013-14.

Main Focus Areas of the PHC and its sub-centres during the years 2011-12, 2012-13 and 2013-14.

It emerged that, in all the three years, the main focus areas of the PHC, in the order of priority were Maternal and Child Health (MCH), Illness care (ILL) and Family Planning (FP), with Communicable Disease (CDC) and Environmental issues (ENV) taking a back seat. When the sub-centres were considered, the activities, in the order of priority emerged as Communicable Disease (CDC), Family Planning (FP) and (Maternal and Child Health (MCH). Here, the other two activities enjoyed lesser priority.

Relative Distribution of the Total Expenditure between the PHC and its sub-centres during 2011-12, 2012-13 and 2013-14.

It can be seen that the PHC's expenditure was 63% in 2011-12, fell to 56% in 2012-13 and then to 43% in 2013-14. This suggests that the spending by the sub-centres progressively rose in these three years.

Table 5.4.8: KONDAPUR – PHC EXPENDITURE AND FIELD EXPENDITURE BY FUNCTIONS, 2011-12 to 2013 -14. (in Rupees'000)

	Kondapur- PHC and Field Expenditure by Functions																			
		PHC EXPENDITURE						FIELD EXPENDITURE						PHC + FIELD	TOTAL EXPENDITURE					
Type of Expenditure	year	ILL	MCH	FP	CDC	ENV	TOTAL	ILL	MCH	FP	CDC	ENV	TOTAL	GRAND TOTAL	ILL	MCH	FP	CDC	ENV	TOTAL
	2011-2012	21100	13200	9300	4200	2850	50650	17395	10830	20275	5215	1526	55241	105891	38495	24030	29575	9415	4376	105891
	2012-2013	27579	38325	35400	2300	1100	104704	17595	9230	12835	3830	1320	44810	149514	45174	47555	48235	6130	2420	149514
Capital Expenditure	2013-2014	27960	38100	2160	14400	1920	84540	10284	13738	12591.6	8400	1800	46813	131353	38244	51838	14751.6	22800	3720	131353
Recurring Expenditure (Maintenance and stationery electricity etc)	2011-2012	44934	219012	40322	2555	1540	308363	5020	12497	9040	163907	2040	192504	500867	49954	231509	49362	166462	3580	500867
	2012-2013	25686	307860	27325	1960	1350	364181	4083	9035	113541	236342	1955	364956	729137	29769	316895	140866	238302	3305	729137
	2013-2014	94558	329627	35411	6984	6252	472831	19466	11664	17832	219912	3000	271874	744706	114024	341291	53242.8	226896	9252	744706
Total expenditures (Capital + Recurring)	2011-2012	66034	232212	49622	6755	4390	359013	22415	23327	29315	169122	3566	247745	606758	88449	255539	78937	175877	7956	606758
	2012-2013	53265	346185	62725	4260	2450	468885	21678	18265	126376	240172	3275	409766	878651	74943	364450	189101	244432	5725	878651
	2013-2014	122518	367727	37571	21384	8172	557371	29750	25402	30423.6	228312	4800	318688	876059	152268	393128	67994.4	249696	12972	876059
Percentage distribution of Expenditure (%)=(Expnd/TOTAL Expnd)*100	2011-2012	18	65	14	2	1	100	9	9	12	68	1	100		15	42	13	29	1	100
	2012-2013	11	74	13	1	1	100	5	4	31	59	1	100		9	41	22	28	1	100
	2013-2014	22	66	7	4	1	100	9	8	10	72	2	100		17	45	8	29	1	100
Percentage distribution of PHC and Field Expenditure =(Total PHC and Field Expnd/Grand TOTAL PHC and Field Expnd)*100	2011-2012	11	38	8	1	1	59	4	4	5	28	1	41	100						
	2012-2013	6	39	7	0	0	53	2	2	14	27	0	47	100						
	2013-2014	17	50	5	3	1	76	4	3	4	31	1	44	120						

Source: Field Work

Capital Expenditure of the PHC and its sub-centres in the years 2011-12, 2012-13 and 2013-14.

The data from table 5.4 8 shows that the total capital expenditure of the main PHC in 2012-13 was much more than that in the other two years. This was also the case with Illness care (ill), Maternal and Child Health (MCH) and family Planning (FP). A departure from the trend noticed in the case of the sub-centres examined so far was that expenditure on activities like Maternal and Child Health (MCH), Family Planning(FP), Communicable Disease (CDC) and Environmental issues (ENV) during 2011-12 was more than that in the other two years. This was also true in the case of total expenditure where the figure dropped from Rs. 55,241,000 in 2011-12 to Rs. 44,810,000 in 2012-13 and then to 46,813,000 (in 2013-14).

Recurring Expenditure of the PHC and its sub-centres in the years 2011-12, 2012-13 and 2013-14.

The expenditure of the PHC on items like Illness care (ILL), Communicable Disease (CDC) and Environmental issues (ENV) during 2013-14 was more than that of the other two years. Also the total expenditure, which was Rs. 308,363,000 in 2011-12, rose to Rs. 364,181,000 in 2012-13 and then to Rs. 472,831,000 in 2013-14. An element of variability could be seen in the case of recurring expenditure of the sub-centres. The expenditures on Illness care (ILL) and Environmental issues (ENV) were the highest in 2013-14; those on family Planning (FP) and Communicable Disease (CDC) were the maximum in 2012-13 and that on MCH was much more than that in the other two years.

Relative Priorities accorded to the various Activities by the PHCs and its sub-centres. Just like the other PHCs already examined, this PHC devoted its maximum attention to Maternal and Child Health (MCH), Illness care (ILL) and Family Planning (FP), generally in that order in all these years. On the other hand, the sub-centres concentrated most of their expenditure on Communicable Disease (CDC), Family Planning (FP), Illness care (ILL) and Maternal and Child Health (MCH), in that order. This suggests that the PHC and the sub-centres accorded varying degrees of priority to the various health-related activities.

Percentage Distribution of Expenditure between the PHC and its sub-centres. The main PHC garnered 59% of the total expenditure in 2011-12. This fell to 53% in 2012-13 which then rose to 76%.

Table 5.4.9: ATHMAKUR PHC EXPENDITURE AND FIELD EXPENDITURE BY FUNCTIONS, 2011- 12 to 2013 -14. (in Rupees'000)

	Athmakur- PHC and Field Expenditure by Functions																			
		PHC EXPENDITURE						FIELD EXPENDITURE						PHC + FIELD	TOTAL EXPENDITURE					
Type of Expenditure	Year	ILL	MCH	FP	CDC	ENV	TOTAL	ILL	MCH	FP	CDC	ENV	TOTAL	GRAND TOTAL	ILL	MCH	FP	CDC	ENV	TOTAL
Capital Expenditure	2011-2012	18892	51508	6200	5590	7070	89260	15100	8600	1940	4000	2500	32140	121400	33992	60108	8140	9590	9570	121400
	2012-2013	43677	11395	25182	4850	1200	86304	15595	11500	7660	4280	3550	42585	128889	59272	22895	32842	9130	4750	128889
	2013-2014	47568	51612	9876	5712	2748	117516	19541	20496	3588	4740	3984	52349	169865	67109	72108	13464	10452	6732	169865
Recurring Expenditure (Maintenance and stationery electricity etc)	2011-2012	30790	358935	62810	9710	3900	466145	14045	26043	12395	205345	4595	262423	728568	44835	384978	75205	215055	8495	728568
	2012-2013	35472	411574	512535	4490	9120	973191	19650	12330	18737	264280	6000	320997	1294188	55122	423904	531272	268770	15120	1294188
	2013-2014	14916	77149	8628	5112	4200	110005	17488	19230	65068	316508	2856	421150	531155	32404	96379	73696	321620	7056	531155
Total expenditures (Capital + Recurring)	2011-2012	49682	410443	69010	15300	10970	555405	29145	34643	14335	209345	7095	294563	849968	78827	445086	83345	224645	18065	849968
	2012-2013	79149	422969	537717	9340	10320	1059495	35245	23830	26397	268560	9550	363582	1423077	114394	446799	564114	277900	19870	1423077
	2013-2014	62484	128761	18504	10824	6948	227521.2	37028	39726	68656	321248	6840	473498	701019.6	99512	168487	87160	332072	13788	701020
Percentage distribution of Expenditure (%)=(Expnd/TOTAL Expnd)*100	2011-2012	9	74	12	3	2	100	10	12	5	71	2	100		9	52	10	26	2	100
	2012-2013	7	40	51	1	1	100	10	7	7	74	3	100		8	31	40	20	1	100
	2013-2014	27	57	8	5	3	100	8	8	14	68	1	100		14	24	12	47	2	100
Percentage distribution of PHC and Field Expenditure =(Total PHC and Field Expnd/Grand TOTAL PHC and Field Expnd)*100	2011-2012	6	48	8	2	1	65	3	4	2	25	1	35	100						
	2012-2013	6	30	38	1	1	74	2	2	2	19	1	26	100						
	2013-2014	9	18	3	2	1	32	5	6	10	46	1	68	100						

Source: Field Work

Capital Expenditure of the PHCs and its sub-centres during the years 2011-12, 2012-13 and 2013-14.

The data from table 5.4.9 it can be seen that there was no uniform trend in the maximum expenditure of the PHC during these three years. The expenditure on Maternal and Child Health (MCH), Communicable Disease (CDC) and Environmental issues (ENV) was the highest in 2011-12. The figures for Illness care (ILL) and Family Planning (FP) were maximum in 2012-13. When the total capital expenditure of the PHC is considered, the figure was the maximum in 2013-14, followed by that of 2011-12 and 2012-13. The trend of 2013-14 having the maximum expenditure in 2013-14 was also noticed in the case of the sub-centres as well. This increase was largely due to the expenditure on Illness care and MCH during 2013-14 being much more than the corresponding figures for the other two years.

Recurring Expenditure of the PHCs and its sub-centres during the years 2011-12, 2012-13 and 2013-14. It emerged that the maximum total expenditure on the various activities of the PHC was in 2012-13. This was mainly because of the much higher expenditure on Illness care (ILL), Maternal and Child Health (MCH), and Environmental issues (ENV) during this year compared by that of the other two years.

Relative Priorities Accorded by the PHC and its sub-centres to the various Activities during the years 2011-12, 2012-13 and 2013-14. Just like the other PHCs already examined, the major focus areas for the PHC were generally Maternal and Child Health (MCH), Family Planning (FP) and Illness care (ILL) in all the three years. The general order of priority of the sub-centres was Communicable Disease (CDC), Illness care (ILL), Maternal and Child health (MCH) and Family Planning (FP). This reiterates the fact that the PHC and its sub-centres accorded varying degrees of importance to the various activities.

Distribution of the Total Expenditure between the PHC and its Sub-centres. The percentage of expenditure by the PHC was 65 in 2011-12. This rose to 74 in 2013-14, but then fell to 32 in 2013-14. This suggests that the percentage kept on changing.

Table 5.5: Staff of Gross monthly salaries average salary of the employees of PHCs category wise during 2013-14. (in Rupees'000)

SL/NO	Staff/Category	STAFF COUNT	1.Jinnaram	STAFF COUNT	2.Gummadidala	STAFF COUNT	3.Kanukunta	STAFF COUNT	4.RC Puram	STAFF COUNT	5.Bhanoor	STAFF COUNT	6.Munipally	STAFF COUNT	7.Kandi	STAFF COUNT	8.Kondapur	STAFF COUNT	9.Athmakur	TOTAL STAFF	TOTAL SALARY	STAFF AVG SALARY (T.SAL/T.STAFF)	PHC AVG SALARY (T.SAL/9PHCs)
1	Medical Officer's	2	116736	1	48548	1	45000	1	47000	1	38991	2	87921	1	58140	2	90904	2	82122	13	615362	47336	68374
2	APMO	0	0	0	0	0	0	1	38000	1	33665	1	61593	1	68173	0	0	0	0	4	202454	50614	22495
3	MPHEO	1	35542	1	35361	0	0	0	0	1	53492	0	0	1	43630	0	0	1	40791	5	208816	41763	23202
4	CHO	0	0	0	0	0	0	1	45000	1	50177	1	44151	0	0	1	44185	0	0	4	183513	45878	20390
5	PHN	1	33927	0	0	0	0	1	40000	0	0	1	54566	1	58012	1	54486	1	61875	6	302866	50478	33652
6	MPHS(F)	2	85574	1	44839	1	37362	3	123582	4	179306	2	82183	2	93179	3	163458	3	138708	21	948191	45152	105355
7	MPHS(M)	1	30854	1	32757	0	0	1	25000	2	64467	1	25911	1	25071	1	24766	2	71810	10	300636	30064	33404
8	Staff Nurse	2	38954	2	47173	1	51750	3	66000	1	44172	2	53650	1	33486	2	57224	2	25800	16	418209	26138	46468
9	Sr. Asst	1	22782	1	20700	1	22800	1	22000	1	24294	1	58892	1	39003	1	25395	1	46700	9	282566	31396	31396
10	Jr .Assist	1	14911	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14911	14911	1657
11	Lab-Tech	1	27036	1	28418	1	28493	1	25000	1	26340	1	28418	1	33258	1	32807	1	28400	9	258170	28686	28686
12	Pharmacist	1	17200	1	38360	1	17625	1	28000	0	0	1	18179	1	36983	1	36583	1	44261	8	237191	29649	26355
13	MNO	1	30354	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	30354	30354	3373
14	FNO	1	28036	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	28036	28036	3115
15	MPHA(F)	6	132319	6	128759	2	31410	13	345132	20	396159	4	97883	6	169579	9	204262	10	250017	76	1755520	23099	195058
16	MPHA(M)	2	33650	3	48000	2	37146	2	42200	6	107482	2	34622	2	35124	2	34873	1	24766	22	397863	18085	44207
17	2nd ANM's	6	60000	5	51000	2	20000	5	51000	10	100000	7	70000	11	110000	7	70000	10	100000	63	632000	10032	70222
18	O. Sub	1	19331	1	20896	0	0	1	17500	1	25585	2	54621	0	0	1	19400	2	40771	9	198104	22012	22012
19	Sweeper	1	18780	1	20318	0	0	0	0	0	0	1	10471	0	0	0	0	0	0	3	49569	16523	5508
20	Thoty	1	14577	0	0	0	0	0	0	0	0	1	32779	0	0	0	0	0	0	2	47356	23678	5262
21	Contingency Worker	2	10000	2	10000	1	1000	2	10000	1	5000	2	10000	1	16000	2	9800	2	10000	15	81800	5453	9089
22	Class IV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	30118	0	0	1	30118	30118	3346
23	RCH-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12900	2	25800	3	38700	12900	4300
24	Total	34	770563	27	575129	13	292586	37	925414	51	1149130	32	825840	31	819638	36	911161	41	991821	302	7262305	24047	806923

Source: field reports

The Table 5.5 shows that the below depicts the situation regarding the expenditure in the year 2013-14 on the salaries of the various categories of staff in the nine PHCs under study. It needs to be clarified here that all the PHCs did not have the sanctioned complement of staff since there were vacancies in some positions in a few PHCs. Thus, the total figure for the salaries of the particular category of staff was not the same for all the PHCs. Also, due to issues like length of service, persons occupying the same position would not be drawing the same salary. Hence, for comparison purposes, the average monthly salary for each of the positions has been taken into account. This should be used for calculation this unit cost of salary component data has to be apportioned and different activities through time units.

It is not very surprising to note that the average monthly salary of the medical officer was the highest. Salaries were paid centrally by the district Salary costs could only be calculated for two broad groupings: senior staff and junior staff. The cost apportionment required more detailed data, salary costs were estimated from staff numbers by type and grade and average from salaries (mid point of the salary scale). The total cost was used to cross check this procedure: the actual and estimated expenditures were in general extremely close. To allow for employment benefits, the added 10% to the annual salary cost of pensionable staff.

The Table 5.6 data has given an idea on the expenditure on drugs by the nine PHCs during the years 2011-12, 2012-13 and 2013-14. The focus would be on ascertaining whether there was a uniform pattern in these PHCs, or whether individual PHCs had their own relative priorities. The analysis will be given at the end of the Table pertaining to 2013-14.

Table 5.6 DRUGS WISE AND YEAR WISE ALL PHC SUMMARY (In Rs'000)

S.No	PHC Name	2011-2012									
		ANTIBIOTICS	GENERAL	FLUIDS	SURGICALS	TOTAL	ANTIBIOTICS	GENERAL	FLUIDS	SURGICALS	TOTAL
							%	%	%	%	%
1	M.O.PHC Athmakur	136854	234645	23798	47467	**442764**	31	53	5	11	100
2	M.O.PHC Bhanoor	88098	195711	2908	40923	**327640**	27	60	1	12	100
3	M.O.PHC Gummadidala	75799	116997	2569	10954	**206319**	37	57	1	5	100
4	M.O.PHC Jinnaram	88798	177017	7081	31073	**303969**	29	58	2	10	100
5	M.O.PHC Kandi	129573	214523	4617	40263	**388976**	33	55	1	10	100
6	M.O.PHC Kanukunta	23974	86251	1676	16236	**128138**	19	67	1	13	100
7	M.O.PHC Kondapur	117512	268945	14558	50214	**451228**	26	60	3	11	100
8	M.O.PHC Munipally	167499	250983	8673	41488	**468643**	36	54	2	9	100
9	M.O.PHC Rc.puram	159656	263385	5631	55355	**484027**	33	54	1	11	100
	TOTAL	987763	1808458	71511	333973	**3201704**					

S.No	PHC/CHC Name	2012-2013									
		ANTIBIOTICS	GENERAL	FLUIDS	SURGICALS	TOTAL	ANTIBIOTICS	GENERAL	FLUIDS	SURGICALS	TOTAL
							%	%	%	%	%
1	M.O.PHC Athmakur	271168	216881	68552	63451	**620052**	44	35	11	10	100
2	M.O.PHC Bhanoor	341326	283937	120207	35959	**781429**	44	36	15	5	100
3	M.O.PHC Gummadidala	164467	106070	7969	22505	**301011**	55	35	3	7	100
4	M.O.PHC Jinnaram	268356	154587	16202	16884	**456028**	59	34	4	4	100
5	M.O.PHC Kandi	175949	202955	14857	39368	**433130**	41	47	3	9	100
6	M.O.PHC Kanukunta	65106	64981	1582	11973	**143643**	45	45	1	8	100
7	M.O.PHC Kondapur	191804	218151	62910	63255	**536120**	36	41	12	12	100
8	M.O.PHC Munipally	217250	242559	32738	51393	**543940**	40	45	6	9	100
9	M.O.PHC Rc.puram	318088	363940	35118	107193	**824339**	39	44	4	13	100
	TOTAL	2013515	1854060	360135	411981	**4639692**					

S.No	PHC/CHC Name	2013-2014									
		ANTIBIOTICS	GENERAL	FLUIDS	SURGICALS	TOTAL	ANTIBIOTICS	GENERAL	FLUIDS	SURGICALS	TOTAL
							%	%	%	%	%
1	M.O.PHC Athmakur	56345	210194	43784	22316	**332639**	17	63	13	7	100
2	M.O.PHC Bhanoor	136227	213549	12055	32853	**394684**	35	54	3	8	100
3	M.O.PHC Gummadidala	64992	109564	3614	19606	**197775**	33	55	2	10	100
4	M.O.PHC Jinnaram	62207	146940	4638	28153	**241937**	26	61	2	12	100
5	M.O.PHC Kandi	80075	189050	9203	27265	**305594**	26	62	3	9	100
6	M.O.PHC Kanukunta	41673	54884	2226	10146	**108929**	38	50	2	9	100
7	M.O.PHC Kondapur	165581	244184	13773	31112	**454651**	36	54	3	7	100
8	M.O.PHC Munipally	83368	336019	12913	47324	**479624**	17	70	3	10	100
9	M.O.PHC Rc.puram	80261	197061	3457	27218	**307996**	26	64	1	9	100
	TOTAL	770728	1701446	105662	245992	**2823829**					

Source: District Medical and Head Office DM&HO in Sangareddy Mandal 2013-14

Table 5.6 Budget released on Drugs for PHCs during 2011-2014: Drugs wise and year wise all PHCs summary (In Rs' 000)

The availability of selected drugs can be examined based on factors like 1) presence at the time of survey 2) usual availability, 3) and shipment of expired stock. During personal interactions with the users of the PHCs, it emerged that some important tablets like iron and calcium were not available in PHCs. Some of the respondents complained that the Laboratory for blood test very often remains closed because the Technician has either not been appointed, or is irregular in attendance.

The discussion in the Table 5.6 below would be on the budget allocated for the various types of drugs to the nine PHCs during the years 2011-12, 2012-13 and 2013-14. The accent would be on ascertaining whether the same category of drugs dominated, or whether there were variations in each of these years.

A degree of similarity could be seen in the case of budgetary allocations for 2011-12 and 2013-14 for all the nine PHCs, in that the maximum allocations were for general medicines, followed by antibiotics and surgical items. Only Athmakur PHC was found to have a noticeable 'presence' of fluids (Rs. 44,000 out of a total budgetary allocation of Rs. 333,000). The year 2012-13 witnessed a fluctuating pattern between general medicines and antibiotics. In PHCs like Bhanoor, Jinnaram and Gummadidala, more budget was allotted for antibiotics; whereas in PHCs like Kandi, Kondapur, Munipally and RC Puram, it was the category of general medicines that dominated the rest. The allocation for fluids was found to be quite noticeable in most of the PHCs during the year 2012-13.It was also noticed that surgical items enjoyed a greater priority than fluids in all the three years in all the nine PHCs.

An analysis of the average three years allocations shows that in all the PHCs, the maximum share went to general medicines, followed by antibiotics, surgical items and fluids.

While all categories of drugs have their own importance, it is felt that some more attention should be paid to fluids, because of the greater possibility of the residents suffering from dehydration, etc., because many of them would be working long hours in the hot sun. The almost non-functional blood testing laboratories in some of the PHCs

should be taken more seriously by the concerned authorities. Immediate steps need to be taken to fill up the vacancies where these exist and take strict action against the habitual absentees, wherever applicable.

5.9. Conclusions:

The analysis of fifth chapter on Distribution of expenditure on different services at the PHC level in all financial years, found that the expenditure was highest for Maternal and Child Health (MCH), followed by Illness care (ILL) and Family Planning (FP), Communicable Diseases (CDC) and Environmental issues (ENV) in the order of priority When the sub-centres were considered, the activities, in the order of priority emerged as Communicable Disease (CDC), Family Planning (FP) and Maternal and Child Health (MCH). When the expenditure of all PHCs and all sub-centres together was analyzed, it was found that the order of priority was MCH followed by ILL, FP, CDC and ENV.

CHAPTER-6

UNIT COST PER OUTPUT AND PER CAPITA EXPENDITURE OF VARIOUS PROGRAMMES

6.1. Introduction

This chapter analysed the allocation of time spent by different health functionaries on direct services of various programmes. The measurement of costs, allocation of costs for different components was described. Then the output indicators for diffent programmes were identified and unit costs for different programmes were calculated. Then per capita expenditure for different programmes was calculated.

6.2 Allocation of time for different activities by the PHC Staff

For calculating time spent by PHC staff members special time use form was provided to the doctors, supervisors and workers for reporting, their daily activities and time spent on each activity. These schedules were filled up by the scholar by observing their activities every day at the PHC for a couple of days. The data was collected from MPH female, male and ANMs by asking them the activities and the time spent on each activity. Thus, each worker reported about the place of work, activities carried out for a) direct services on curative care (CC), Family Planning (FP), Maternal and Child Health (MCH), and other programmes), b) administrative and support services (supervision, waiting time, travelling time, record keeping and c) non-productive personal activities. etc., the total number of hours of allocation of time per every week was filled and converted into monthly hours.

From the Table 6.1 gives relative importance being given to various services by the PHC under study. It gives the availability of personnel, for each position, the time (in hours) devoted to each function by the particular staff member in all the PHCs together. Further it gives the per cent distribution of time spent on each of these activities direct services only by these functionaries. It goes without saying that in Primary Health Centres (PHCs) like Jinnaram, Gummadidala, Kanukunta, Kondapur and Athmakur, where there was no Assistant Para-Medical Officer (APMO), it was not possible for such a functionary to perform the six types of activities. Hence, the figures for monthly time spent and percentage distribution of the activities for such

staff members were based on the figures for those Primary Health Centres (PHCs), where such positions were occupied.

It could be seen that the concerned staff devoted varying degrees of time to the various functions. Since the medical officers were in overall control of the PHCs, besides the medical duties, they were attending to activities like 'Others'. Staff like sweepers and Thoties, MNO, FNO, Contingency workers, Class IV staff and Reproductive and Child Health (RCH) were found to largely focused on environmental protection since this could ensure a safe and clean environment in the PHCs. A very positive sign was that activities like Family Planning (FP), Maternal and Child Health (MCH) and illness (ILL) ranked very high in the overall priority list among the various activities. This suggests that the Primary Health Centres (PHCs) were paying a lot of attention to both preventive and curative aspects of health care and, in the process, justifying the adage 'Prevention is better than cure'.

Working pattern in the Primary Health Centre is one of the major problems complained by the doctors. The present working hours and working pattern is highly illogical. About 85% per cent of the doctors shown dissatisfactions regarding this. They felt that, there should be two medical offices per Primary health centre (PHC) to work in a shift. One doctor in a Primary Health Centre (PHC) can hardly provide justice for 24 hrs a day according to their perception. Besides most of the Doctors were complained that much of their times are doing.

In attending monthly taluk meetings, many visits to Grama Sabha, unnecessary training programmes etc. Moreover it has been complained by them that they got very less number of holidays in a year. Apart from above compulsory commitments some of the doctors have also shown dissatisfaction regarding the involvement of local political parties in day to day function of PHCs. Because of all these problems involved in the day to day working Primary Health Centres (PHCs) doctors have expressed the possibility.

The major areas where the pharmacist and laboratory technician were found to be engaged in were: ILL, MCH, FP and CDC. When the time allocation the Public Health Nurse (PHN) was examined, it was found that this person devoted the

maximum time to MCH and FP. Since the senior assistant was largely handling administrative work, this person was found to devote maximum attention to 'Others'. In a similar vein, the 2nd and 3rd Auxiliary Nurse Midwife (ANM) s devoted the maximum time to ILL, MCH and FP. It did not come as a total surprise that the sweeper and contingency worker devoted the maximum time to environmental Sanitation since these persons are largely responsible for keeping the premises neat and tidy. Yet, their role in services like CDC, ILL, MCH and FP cannot be totally ignored. The staff members of PHCs devoted maximum time to FP services. At the other end of the spectrum were the issues related to environmental protection and CDC. Illness and MCH seemed to have been given almost equal importance by all the PHCs.

In a PHC the following activities were under taken by the staff

Table 6.1: Staff Position and Time allocation for each function of 9 PHCs for one month in 2013-14																								
		Staff Availability in the 9 PHCS									Monthly time Spent for Each Function (in Hours)							Monthly time spent (%)						
S.I No	Staff/Category	1.Jinnaram	2.Gummadi ala	3.Kanukunta	4.RC Puram	5.Bhanoor	6.Munipally	7.Kandi	8.Kondapur	9.Athmakur	ILL	MCH	FP	CDC	ENV	Others	Monthly Hours	ILL	MCH	FP	CDC	ENV	Others	Total
1	Medical Officer	2	1	1	1	1	2	1	2	2	46	29	41	16	18	56	206	23	14	20	8	9	27	100
2	APMO	0	0	0	1	1	1	1	0	0	34	34	43	43	24	28	206	17	17	21	21	12	14	100
3	MPHEO	1	1	_	_	1	_	1	_	1	23	36	46	31	21	49	206	11	17	22	15	10	24	100
4	CHO	_	_	_	1	1	1	_	1	_	81	56	69	0	0	0	206	39	27	33	0	0	0	100
5	PHN	1	_	_	1	_	1	1	1	1	19	66	44	14	12	49	206	9	32	21	7	6	24	100
6	MPHS(F)	3	1	1	3	4	2	2	3	3	26	51	40	15	14	61	206	12	25	19	7	7	29	100
7	MPHS(M)	1	1	_	1	2	1	1	1	2	39	39	29	39	39	21	206	19	19	14	19	19	10	100
8	Staff Nurse	2	2	1	3	1	2	1	2	2	34	61	49	11	9	42	206	16	29	24	6	4	20	100
9	Sr. Assistant	1	1	1	1	1	1	1	1	1	24	24	27	17	19	96	206	11	12	13	8	9	46	100
10	Jr. Assistant	1	_	_	_	_	_		_	_	26	24	26	19	16	96	206	12	11	12	9	8	46	100
11	Lab-Tech	1	1	1	1	1	1	1	1	1	53	37	27	23	8	58	206	26	18	13	11	4	28	100
12	Pharmacist	1	1	1	1	_	1	1	1	1	57	35	36	31	0	46	206	28	17	17	15	0	23	100
13	MNO	1	_	_	_	_	_	_	_	_	0	0	26	60	60	60	206	0	0	12	29	29	29	100
14	FNO	1	_	_	_	_	_	_	_	_	0	0	26	60	60	60	206	0	0	12	29	29	29	100
15	MPHA(F)	6	6	2	13	20	4	6	9	10	29	34	45	27	16	55	206	14	16	22	13	8	27	100
16	MPHA(M)	2	3	2	2	6	2	2	2	1	13	17	39	47	39	51	206	6	8	19	23	19	25	100
17	2nd ANM	6	5	2	5	10	7	11	7	10	61	54	54	6	5	26	206	30	26	26	3	2	12	100
18	Office Subordinate	1	1	_	1	1	2	_	1	2	61	51	44	26	14	10	208	30	25	21	13	7	5	101
19	Sweeper	1	1	_	_	_	1	_	_	_	39	39	39	43	43	4	206	19	19	19	21	21	2	100
20	Thoty	1	_	_	_	_	1	_	_	_	39	39	39	43	43	4	206	19	19	19	21	21	2	100
21	Contingent Worker	2	2	1	2	1	2	1	2	2	39	39	39	43	43	4	206	19	19	19	21	21	2	100
22	Class IV	_	_	_	_	_	_	_	1	_	39	39	39	43	43	4	206	19	19	19	21	21	2	100
23	RCH-1	_	_	_	_	_	_	_	1	2	39	39	39	43	43	4	206	19	19	19	21	21	2	100
24	Total	35	27	13	37	51	31	31	36	41														

Source: Office of PHCs Records

For estimating the time devoted to different activities, the units attained for different activities were summed up for each function. Thus, total monthly working hours spent for each personnel was obtained. Then proportional allocation of time for each activity for each personnel was calculated.

6.2.1. Programme Specific time use

The per cent of total service time of all health functionaries in a PHC that was spent or a specific activity is termed as programme specific time use. It is calculated as:

Programme specific time use in a PHC (in per cent) = No. of time units (in hours) for a particular programme by all functionaries in the PHC x 100 /No. of total time units (in hours) for all programmes by all functionaries in the PHC

Table 6.2: Distribution of time allocated for different programmes (%) during 2013-14

Name of PHC	Programmes						
	ILL	MCH	FP	CDC	ENV	OTHERS	TOTAL
1.Jinnaram	17.87	17.24	21.61	13.54	11.36	18.39	100.00
2.Gummadidala	19.05	17.18	21.84	13.75	10.82	17.36	100.00
3.Kanukunta	19.20	16.13	20.61	14.06	9.96	20.03	100.00
4.RC Puram	17.22	16.99	22.16	14.40	11.47	17.76	100.00
5.Bhanoor	15.84	15.22	21.53	15.61	12.85	18.93	100.00
6.Munipally	21.40	20.01	23.38	11.17	8.97	15.07	100.00
7.Kandi	20.36	19.39	23.41	10.99	8.46	17.38	100.00
8.Kondapur	19.08	18.25	22.52	13.05	10.78	16.32	100.00
9.Athmakur	19.80	18.97	22.90	12.25	10.13	15.96	100.00

Source: Field Survey PHCs

Table 6.2 gives data on percentage distribution of time allocation by staff members of PHCs to various services. It was noticed that all the PHCs devoted maximum time to FP services. At the other end of the spectrum were the issues related to environmental protection and (CDC) Illness (ILL) and MCH seemed to have been given almost equal importance by all the PHCs. One cannot also totally ignore the noticeable 'presence' of 'Other', especially in Jinnaram, Kanukunta, Bhanoor and Kandi Primary health canters PHCs.

6.2.2. Relative Attention Paid by Various Functionaries

It is noticed that different staff members of these PHCs perform different types of duties. Thus, while a medical officer may be the overall in-charge of the PHC, supervising all the activities of the Primary Health centres, personnel like the laboratory technician and pharmacist attend to specific duties which may not be related to all the services performed by the PHC, so individual programme specific time use is calculated. The formula is as follows:

Programme specific individual time usage of time (in per cent) = No. of time (hours) of direct services for the programme by a functionary x 100/ No. of total units of time (hours) of direct services for all programmes by the functionary

The data of table 6.3 can give an idea of the relative unit time devoted by various categories of staff members to the particular service.

Table 6.3: Individual Programme Specific Time Use (%) during 2013-14

		Programmes						
S.l No	**Staff/Category**	ILL	MCH	FP	CDC	ENV	Others	TOTAL
1	**Medical Officer**	22.57	13.89	19.97	7.81	8.68	27.08	100.00
2	**MPHEO**	20.83	20.83	26.04	13.54	8.33	10.42	100.00
3	**MPHS(F)**	18.75	18.75	18.75	18.75	18.75	6.25	100.00
4	**MPHS(M)**	18.75	18.75	18.75	18.75	18.75	6.25	100.00
5	**MPHA(M)**	6.25	8.33	18.75	22.92	18.75	25.00	100.00
6	**MPHA(F)**	6.25	8.33	18.75	22.92	18.75	25.00	100.00
7	**Staff Nurse**	31.25	27.08	29.17	0.00	0.00	12.50	100.00
8	**Pharmacist**	31.25	18.75	18.75	18.75	0.00	12.50	100.00
9	**Lab-Tech**	31.25	18.75	18.75	18.75	0.00	12.50	100.00
10	**O. Sub**	31.21	27.05	29.13	0.00	0.00	12.62	100.00
11	**APMO**	16.67	16.67	20.83	20.83	11.46	13.54	100.00
12	**CHO**	39.58	27.08	33.33	0.00	0.00	0.00	100.00
13	**PHN**	0.00	45.83	41.67	0.00	0.00	12.50	100.00
14	**Sr. Asst**	8.33	6.25	10.42	6.25	6.25	62.50	100.00
15	**2nd ANMs**	31.25	27.08	29.17	0.00	0.00	12.50	100.00
16	**3rd ANMs**	31.25	27.08	29.17	0.00	0.00	12.50	100.00
17	**Sweeper**	18.75	18.75	18.75	20.83	20.83	2.08	100.00
18	**Contingency Worker**	18.75	18.75	18.75	20.83	20.83	2.08	100.00

Source: Field survey of 9 PHCs

It can be seen from the data of table 6.3 that the Medical officers devoted the maximum time to 'Others', ILL FP and MCH CDC and ENV occupied the least time. The Multipurpose Health Education Officer (MPHEO), on the other hand, devoted the maximum time to FP ILL and MCH in that order. Environmental protection, 'Others' and CDC figured relatively low in the time allocation. The Multi Purpose Health Supervisor (MPHS) (F) and (MPHS) (M) were found to be devoting equal attention to ILL, MCH, FP, CDC and Environmental protection. The Multi Purpose Health Assistant (MPHA) (M) and MPHA(F) were found to be concerned about 'Others', CDC Environmental Protection, FP, MCH and illness (ILL), in that order. The staff nurse was not found to have any role in environmental protection and CDC, but was found to concentrate on illness (ILL), FP and MCH, in that order.

The major areas where the pharmacist and laboratory technician were found to be engaged in were: illness (ILL), MCH, FP and CDC. When the time allocation the Public Health Nurse (PHN) was examined, it was found that this person devoted the maximum time to MCH and FP. Since the senior assistant was largely handling administrative work, this person was found to devote maximum time to 'Others'. In a similar vein, the 2nd and 3rd Auxiliary Nurse Midwife (ANM) s devoted the maximum time to illness (ILL), MCH and FP. It did not come as a total surprise that the sweeper and contingency worker devoted the maximum time to environmental Sanitation since these persons are largely responsible for keeping the premises neat and tidy. Yet, their role in services like CDC, illness (ILL), MCH and FP cannot be totally ignored.

6.3. Programme Specific Time for MCH (excludes immunisation) and Immunisation

Time spent on MCH care was estimated from the Daily Time Schedule of personal. If during the same period more than one activity was done, the unit was divided by as many number of MCH activities were done. Units under MCH care (excluding immunisation) and immunisation service alone were summed together separately.

$$\text{Allocated per cent of time for (Excluding immunisation) in a PHC MCH care} = \frac{\text{No. of hours for MCH care (Excluding immunisation) activities by all functionaries in the PHC}}{\text{Total No of units for all MCH activities by all Functionaries in the PHC.}} \times 100$$

$$\text{Allocated per cent of immunisation Service in a PHC} = \frac{\text{No. of hours for immunisation activities by all functionaries in the PHC}}{\text{Total No. of hours for all MCH activities by all functionaries in the PHC}} \times 100$$

Table 6.4: Programme Specific Time– MCH during 2013-14

NAME of the PHCs	1.Allocated % of time for MCH (excluding immunization) in PHC	2. Allocated % time for immunization only in PHC
1.Jinnaram	53.91	10.78
2.Gummadidala	52.25	11.98
3.Kanukunta	52.98	12.58
4.RC Puram	55.97	12.32
5.Bhanoor	54.16	13.73
6.Munipally	56.02	10.36
7.Kandi	56.51	10.69
8.Kondapur	56.07	11.16
9.Athmakur	55.90	10.53

Source: PHCs Field Survey

Table 6.5: Programme Specific Time Allocation for MCH services during 2013-14 (In Hours)

NAME of the PHCs	MCH WITH IMMUNISATION	MCH WITHOUT IMMUNISATION	TOTAL DDS	ASA	NPPA	G.TOTAL
1.Jinnaram	130	650	780	367	59	1206
2.Gummadidala	114	499	613	304	38	954
3.Kanukunta	54	229	283	132	16	431
4.RC Puram	159	724	883	372	38	1293
5.Bhanoor	219	865	1084	484	29	1597
6.Munipally	136	738	874	384	59	1317
7.Kandi	134	706	840	381	29	1250
8.Kondapur	151	758	909	389	54	1351
9.Athmakur	168	894	1063	483	54	1600
TOTAL	1266	6062	7329	3295	376	11000

Source: Office of PHCs
Note: DDS: Direct Delivery Services, ASA: Administrative and Supportive Activities, NPPA: Non-productive Personnel Activities.

6.4. Measurement of Costs

Two types of costs-capital and recurring costs were examined in this analysis: (1) Capital Costs: The capital cost was considered important from a long term investment perspective of primary health care in PHCs. (Physical infrastructure: Repair/Maintenance work, patch work, furniture, and equipment), and (2) Recurrent costs: Recurring cost is relevant to annual budgeting of Primary Health Centre facilities. which included (a) Operational and maintenance and repair costs, (b) salaries and allowances of the staff, (c) food for the patients (d) medicines, vaccines, drugs, contraceptives, (e) stationary, electricity, water, telephone charges, cleaning, and general administrative expenses, (f) IEC activities like film shows, cultural shows, and costs on major repairs etc. In the present analysis cost data was collected by accounting based method.

6.4.1. Allocation of costs to different programmes

The data on expenditure includes salary, capital, recurring, and drugs for 2013-14. The component of salary of PHC staff members was obtained for different programmes in the same proportion as the Direct Service time allocation to those programmes by the staff members. Also expenditure on capital, recurring for each function was obtained from PHC records and expenditure on drugs for all functions was also obtained. The expenditure on drugs was not available function wise at the PHC level. Based on the activities and output indicators of PHCs, the drug

expenditure was divided into MCH (15%), Illness (50%), FP and (15%) CDC (20%). The expenditure for each function includes salary, capital (excluding building, vehicles, and large equipment), recurring and expenditure on drugs.

6.4.2. Programme Specific Expenditure

Table 6.6: Programme Specific Expenditure of all 9 PHCs Combined during 2013-14 (In Rupees)

Programme Specific Expenditure of all 9 PHCs Combined (In Rs)						
	Illness	**MCH**	**FP**	**CDC**	**ENV**	**Total**
Salary	15250839	15056639	18973002	12243664	9823780	71347924
Drugs	1411914	423574	423574	564765	0	2823827
Capital	405621	319623	232110	93474	73646	1124474
Recurring	795303	1676741	645530	2056937	76590	5251101
Total	17863677	17476577	20274216	14958840	9974016	80547326

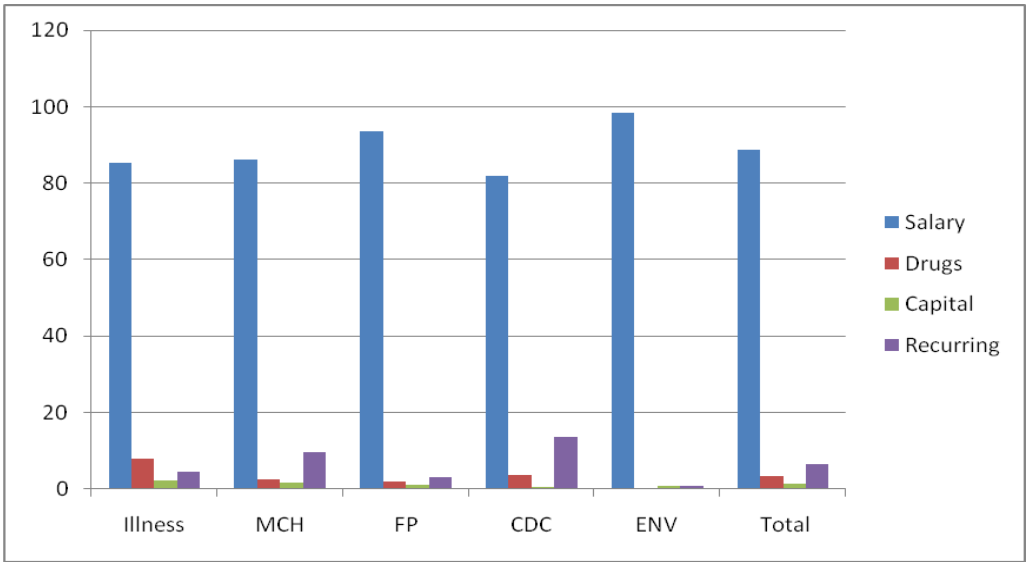
Source : Field Work

Table 6.7: Programme Specific Expenditure of all 9 PHCs Combined during 2013-14 (%)

Programme Specific Expenditure of all 9 PHCs Combined (%)						
	Illness	**MCH**	**FP**	**CDC**	**ENV**	**Total**
Salary	85.3	86.1	93.5	81.8	98.4	88.5
Drugs	7.9	2.4	2.0	3.7	0	3.5
Capital	2.2	1.8	1.1	0.6	0.7	1.3
Recurring	4.4	9.5	3.1	13.7	0.7	6.5
Total	100	100	100	100	100	100

Source : Field Work

Chart 6.1: Programme Specific Expenditure of all 9 PHCs Combined during 2013-14 (%)



Date from tables 6.6 and 6.7 show that of the total expenditure of the nine PHCs, 88.5 per cent is spent on salaries of the staff, 3.5 percent is spent on drugs, 1.3 percent is spent on capital expenditure (excluding, buildings, vehicles, and large equipment) and 6.5 per cent is spent on recurring expenditure indicating that the salary component is the major component of the expenditure. The pattern is same for all programmes. For a better and efficient functioning of the PHCs salary component has to be 50 to 60 per cent and the recurring and drug component has to be raised up to at least 30 per cent.

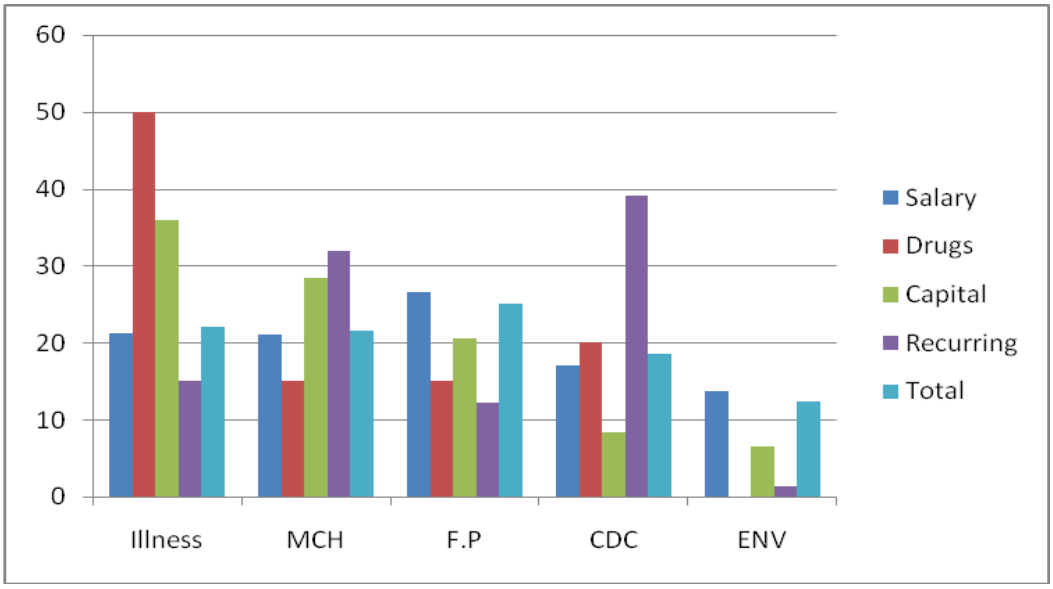
6.4.3. Resource Specific Expenditure

6.8: Resource specific expenditure on different functions of all 9 PHCs combined during 2013-14 (%)

Resources	Illness	MCH	F.P	CDC	ENV	Total
Salary	21.3	21.1	26.5	17.1	13.7	100
Drugs	50	15	15	20	0	100
Capital	36	28.4	20.6	8.3	6.5	100
Recurring	15.1	31.9	12.2	39.1	1.4	100
Total	22.1	21.6	25.1	18.5	12.3	100

Source : Field Work

Chart 6.2: Resource specific expenditure on different functions of all 9 PHCs combined during 2013-14



Data from the table 6.8 show the component specific cost analysis. It indicates that the share of salary component was highest for FP (26.5 %) followed by MCH (21.1%), Illness (21.3%), CDC (17.1%) and Environmental sanitation (13.7%). The expenditure on drugs was not available function wise at the PHC level. Based on the activities and output indicators of PHCs, the drug expenditure was divided into MCH (15%), Illness (50%), FP and (15%) CDC (20%). The capital expenditure was highest for Illness (36%) followed by MCH (28.4%), FP (20.6%), CDC (8.3%) and ENV (6.5%). The Recurring expenditure was highest for CDC (39.1%), followed by MCH (31.9%), Illness (15.1%), FP (12.2%) and ENV (1.4%). The analysis of resource specific expenditure on different functions indicate that total resources 25.1 percent has spent for FP followed by illness 22.1 percent, MCH 21.6 percent, CDC 18.5 percent and ENVT 12.3 percent.

The analyses of programme specific expenditure on different resources of all PHCs indicate that 88.5 percent is spent on salaries of the staff. For a better and efficient efficiency of the PHCs salary component has to be 50 to 60 percent and the recurring and drug component has to be raised up to 30 percent.

The analysis of resource specific expenditure on different functions indicate that total resources 25.1 percent has spent for FP followed by illness 22.1 percent, MCH 21.6 percent, CDC 18.5 percent and ENVT 12.3 percent.

6.5. Unit Costs per output of various programmes

For calculating unit cost for providing services one needs cost expenditure data of various services and the output indicators of the services. The data on expenditure includes salary, capital, recurring, and drugs for 2013-14. The component of salary of PHC staff members was obtained for different programmes in the same proportion as the Direct Service time allocation to those programmes by the staff members. Also expenditure on capital, recurring for each function was obtained from PHC records and expenditure on drugs for all functions was also obtained. The expenditure on drugs was not available function wise at the PHC level. Based on the activities and output indicators of PHCs, the drug expenditure was divided into MCH (15%), Illness (50%), FP and (15%) CDC (20%). The expenditure for each function includes salary, capital (excluding building, vehicles, and large equipment), recurring and expenditure on drugs.

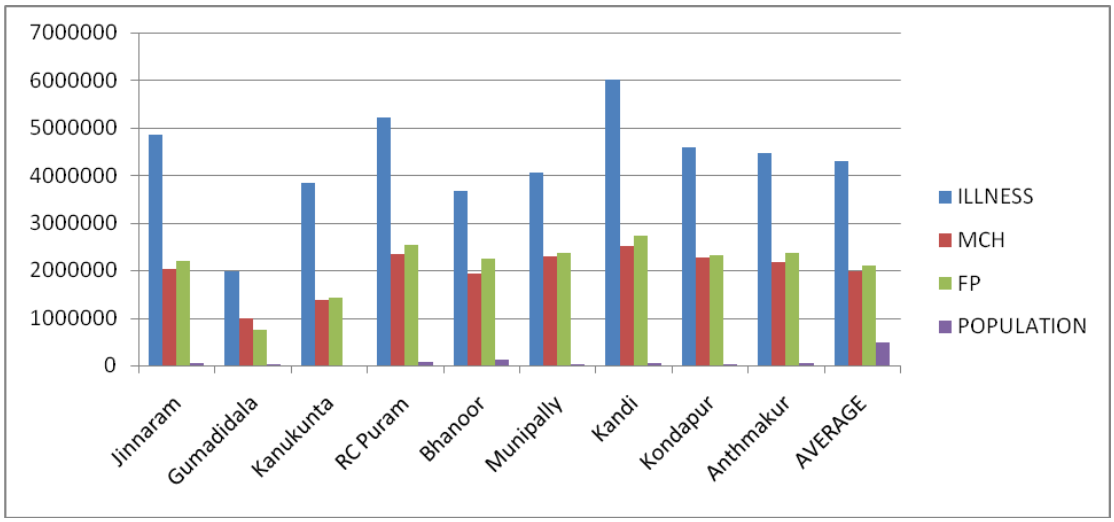
For calculating unit costs expenditure data of each PHC taken for 6 months only because the output indicators are available for 6 months only (April 2013- September 2013).

Table 6.9: Expenditure for different functions in all 9 PHCs during April 2013-September 13 (In Rs)

NAME OF THE PHC	ILLNESS	MCH	FP	POPULATION
Jinnaram	4860700	2022974	2186936	48698
Gumadidala	1971298	993624	1124429	30209
Kanukunta	3830177	1363871	1417261	8969
RC Puram	5202470	2346387	2544267	82301
Bhanoor	3679881	1927069	2247104	125819
Munipally	4060914	2297835	2365558	39309
Kandi	6011479	2509223	2735797	62300
Kondapur	4584747	2261146	2308805	43026
Anthmakur	4465300	2178643	2369433	49780
AVERAGE	38664966	1988975	2102882	490411
TOTAL	38666965	17900773	18925945	

Sources: Field Survey

Chart 6.3: Expenditure for different functions in all 9 PHCs during April 2013-September 13 (In Rs)



Data from table 6.9 data has shown that the expenditure was highest for Kandi followed by RC Puram, Kondapur, and Athmakur. The least expenditure in for Gummadidala PHC. The expenditure of each function was divided by the combined output indicator of that function to get the Unit cost of that function.

For output indicators, only three functions were considered, i.e., Illness, MCH and FP because for CDC and ENV data on output indicators was not available. The output indicators for MCH are ANC, institutional deliveries and postnatal care. For these three activities a combined measure was calculated by giving weights to the output figures of different programmes as given below:

6.5.1 Measures of Output

i) Curative Care: the total number of patients who were provided services at the OPD of PHC/SC/Dispensary and inpatients.

ii) Family planning: Family planning output was measured by in the accounting year, by estimating equivalent sterilization. For computing 1 sterilization equivalent, 3 IUD acceptors or 9 oral pill users or 18 condom users were considered acceptor second indicator is used for analysis.

iii) MCH programme: For measuring MCH programme output, all activities under it were made into two groups. MCH care included Anti –Natal care (ANC), Post natal care (PNC),deliveries conducted ,baby check up/weighting etc. 2) Immunization

services included TT to pregnant mothers, BCG, DPT, Polio, measles, TT, DT etc given to children. The units of MCH care (excluding immunization) was taken as number of beneficiaries contacts and for immunization service as number of injections/doses administered for six months in the accounting year.

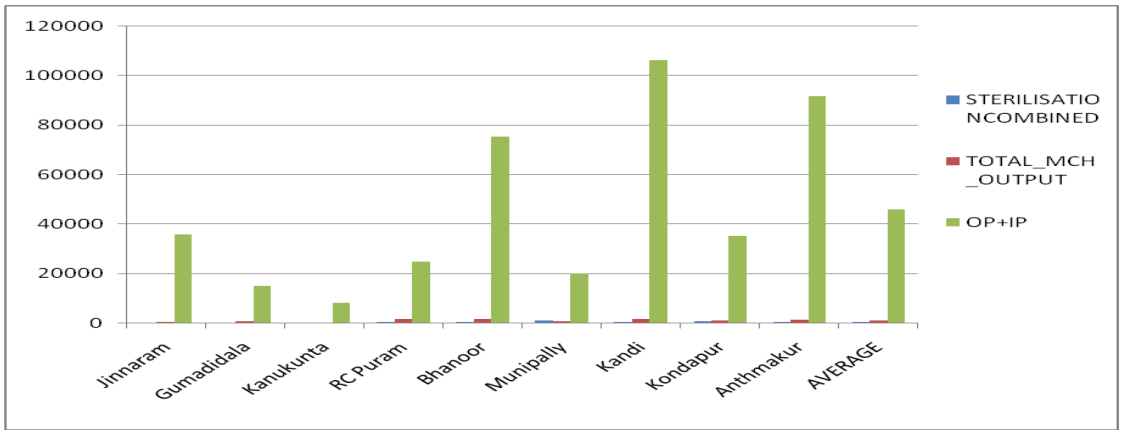
Weights for MCH, the outcome indicators are given as: ANC (0.2) delivery institutional (0.6), and PNC (0.2) and the weighted outcome indicator for MCH are obtained + fully immunized (1.0).

Table.6.10: Output Indicators for Different Functions in all 9 PHCs during Aril 2013-September 13 (In Rs)

NAME OF THE PHC	STERILISATIONCOMBINED	TOTAL_MCH_OUTPUT	OP+IP
Jinnaram	150	643	36036
Gumadidala	115	879	15087
Kanukunta	104	394	8197
RC Puram	322	1689	25073
Bhanoor	324	1665	75525
Munipally	991	842	20166
Kandi	463	1907	106246
Kondapur	586	1264	35344
Athmakur	452	1462	91646
Average	389.6	1193.8	45924
Total	3507	10745	413320

Sources: Filed work

Chart 6.4: Output Indicators for Different Functions in all 9 PHCs April 2013-September 13 (In Rs)



The data of 6.10 shows that an output indicator was highest in Kandi PHC in OP+I. Followed by Athmakur PHC and Kanukunta PHC output indicator is very low, when compared all nine PHCs.

Table 6.11: Unit Cost for Different Functions in all 9 Primary Health Cetres for six months in April 2013- September 13 (In Rs)

NAME OF THE PHC	ILLNESS	ILLNESS (IP+OP)	FAMILY PLANING	MCH
Jinnaram	135.7	134.9	14563.4	3145.2
Gumadidala	131.9	130.7	6528.5	1130.1
Kanukunta	473.1	467.3	13627.5	3458.1
RC Puram	210.4	207.5	7901.5	1389.5
Bhanoor	48.9	48.7	6935.5	1157.3
Munipally	204.7	201.4	2387	2730.3
Kandi	56.7	56.6	5908.8	1316.1
Kondapur	131.9	129.7	3939.9	1788.3
Anthmakur	48.8	48.7	5242.1	1490.2
AVERAGE	160.2	158.3	7448.2	1956.1
TOTAL	1442.1	1425.5	67034.2	17605.1

Sources: Field Work

Chart 6.5: Unit Cost for Different Functions in all 9 Primary Health Cetres for six months in April 2013-September 13 (In Rs)

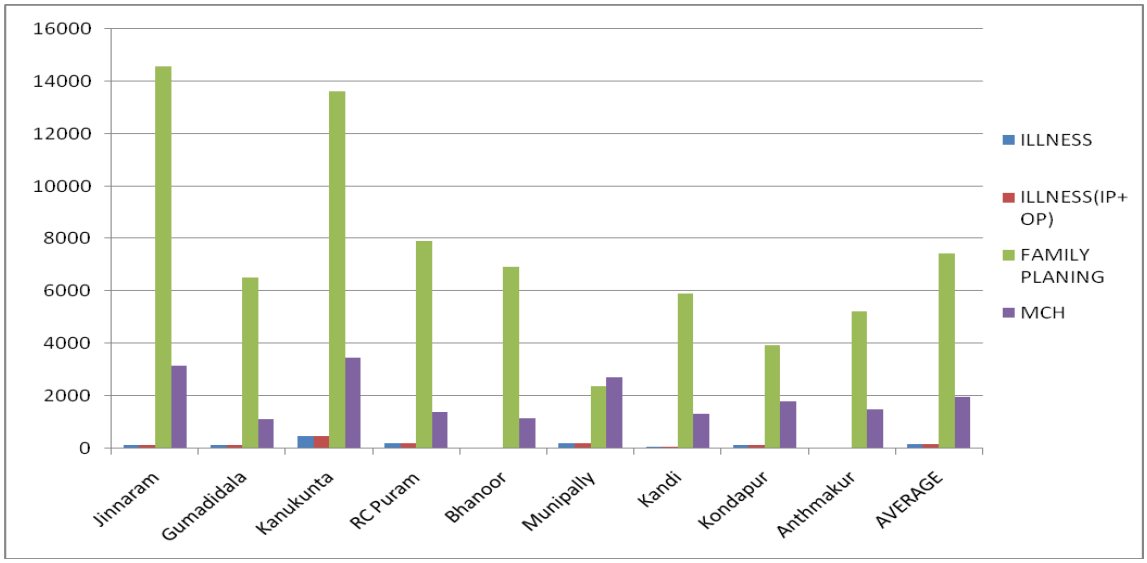


Table 6.11 indicates that the unit cost of producing an FP outcome indicator is higher for all PHCs combined (Rs 67034) followed by MCH outcome indicator (17605), illness indicator (IP+OP-1425), It was found that the unit cost of producing an output indicator for illness and MCH is the highest for Kanukunta PHC because pf lower

outcome indicator and for FP, it was highest for Jinnaram. (The detailed table is given Appendix 5 page no 158).

6.6. Rank Correlation

The performance indicators of PHC are the expenditure data also taken for 6 months only because the output indicators are available for 6 months (April 2013-September 2013). The output indicators are correlated with the expenditure of each function capital (includes replacement major repair maintenance works, large equipment, furniture of PHC and recurring which includes salary, maintenance, minor repairs, electricity, telephone, internet, stationary, utility bills, etc.,) by Rank Correlation. (For details of Rank Correlation method see Appendix 4 page no 157)

The value of R lies between ±1 such as:

R =+1, there is a complete agreement in the order of ranks and move in the same direction.

R=-1, there is a complete agreement in the order of ranks, but are in opposite directions.

R =0, there is no association in the ranks.

In the current analysis rank correlation is calculated for each function of the PHCs. For example for illness, the outcome variables are inpatients at PHC level, and out patients (new cases) and old cases at PHC level and outpatients at the sub-centre level. The other variables are expenditure for illness, per centage of vacancies in the PHC.

For MCH, based on the field experience, the outcome indicators are given weights as: ANC (0.2) delivery institutional (0.6), and PNC (0.2) and the weighted outcome indicator for MCH is obtained + fully immunization.

For Family Planning, Sterilization equivalents are calculated (as followed officially) by converting 3 IUD = 1 Sterilization, 9 Oral Pills = 1 Sterilization, and (18 Condoms) = 1 Sterilization. Now the rank correlations are obtained for all the above 3 functions of the PHCs and the results are given in Tables.6.12 to 6.14.

Table 6.12: Rank Correlation between Illness Expenditure and Total out Patients and Inpatients April 2013 to September 2013 (in Rs)

Correlation Matrix				
		ILLNESS EXPENDITURE	IN-PATIENTS	TOTAL OP
ILLNESS EXPENDITURE	Correlation Coefficient	1.000	.517	.517
	Sig. (2-tailed)	.	.154	.154
	N	9	9	9
IN-PATIENTS	Correlation Coefficient	.517	1.000	.283
	Sig. (2-tailed)	.154	.	.460
	N	9	9	9
TOTAL OP	Correlation Coefficient	.517	.283	1.000
	Sig. (2-tailed)	.154	.460	.
	N	9	9	9

Sources Field Work:

Partial Correlation (Control Variable –Vacancies %) April 2013 to September 2013 (in Rs)

Control Variables		ILLNESS EXPENDITURE	TOTAL OP	IN-PATIENTS
ILLNESS EXPENDITURE	Correlation	1.000	.549	.318
	Significance (2-tailed)	.	.159	.443
	df	0	6	6
TOTAL OP	Correlation	.549	1.000	.084
	Significance (2-tailed)	.159	.	.842
	df	6	0	6
IN-PATIENTS	Correlation	.318	.084	1.000
	Significance (2-tailed)	.443	.842	.
	df	6	6	0

Sources Field Work

Results of Rank Correlation from Table 6.12 shows that Illness expenditure has a moderate and positive correlation of 0.517 each with the output indicators of total OP cases (include both old and new cases in PHCs and in sub-centres) and IP cases respectively. However, after controlling for percentage of vacancies, illness expenditure shows higher and positive correlations of 0.549 with OP and 0.318 with IP cases. None of the correlations are statistically significant at 95% CI (Confidence Interval).

Table 6.13: Rank Correlation between MCH Expenditure and MCH Combined and Fully Immunized April 13 to September 2013 (in Rs)

Correlation matrix				
		MCH EXPENDITURE	MCH COMBINED	FULLY IMMUNISED
MCH EXPENDITURE	Correlation Coefficient	1.000	.567	.633
	Sig. (2-tailed)	.	.112	.067
	N	9	9	9
MCH COMBINED	Correlation Coefficient	.567	1.000	.683*
	Sig. (2-tailed)	.112	.	.042
	N	9	9	9
FULLY IMMUNISED	Correlation Coefficient	.633	.683*	1.000
	Sig. (2-tailed)	.067	.042	.
	N	9	9	9

Sources Field Work:

Partial Correlation (Control Variable-Vacancies %) April 13 to September 2013 (in Rs)

Control Variables		MCH EXPENDITURE	MCH COMBINED	FULLY IMMUNISATION
MCH EXPENDITURE	Correlation	1.000	.541	.467
	Significance (2-tailed)	.	.166	.243
	df	0	6	6
MCH COMBINED	Correlation	.541	1.000	.534
	Significance (2-tailed)	.166	.	.173
	df	6	0	6
FULLY IMMUNISATION	Correlation	.467	.534	1.000
	Significance (2-tailed)	.243	.173	.
	df	6	6	0

Sources Field Work

Results from Table 6.13 indicate that MCH expenditure shows moderate and positive correlations of 0.567 and 0.633 with the output indicators of MCH-Combined (weighted average of ante-natal care, institutional delivery and post-natal care) and fully immunized respectively. Interestingly, after controlling for the effects of percentage of vacancies, MCH expenditure shows a stronger positive correlation with

fully immunized and with MCH-Combined. None of the correlations are statistically significant at 95% CI.

Table 6.14: Rank Correlation between Family Planning Expenditure and Sterilization Equivalents April 13to September 2013 (in Rs)

Correlation Matrix			
		FAMILY PLANNING EXPENDITURE	STERILISATION COMBINED
FAMILY PLANNING EXPENDITURE	Correlation Coefficient	1.000	.650
	Sig. (2-tailed)	.	.058
	N	9	9
STERILISATION & EQUIVALENTS	Correlation Coefficient	.650	1.000
	Sig. (2-tailed)	.058	.
	N	9	9

Sources Field Work

Partial Correlation (Control Variable-Vacancies %) April 2013 to September 2013 (in Rs)

Correlation Matrix			
Control Variables		FAMILY PLANNING EXPENDITURE	STERILISATION COMBINED
FAMILY PLANNING EXPENDITURE	Correlation	1.000	.587
	Significance (2-tailed)	.	.126
	Df	0	6
STERILISATION COMBINED	Correlation	.587	1.000
	Significance (2-tailed)	.126	.
	Df	6	0

Sources Field Work

Results from Table 6.14 shows that Family Planning expenditure has a moderate and positive correlation of 0.650 with the output indicator of Sterilization-Combined (weighted average of total number of sterilizations, condoms used, IUDs, Oral pills). However, a higher correlation of 0.587. All correlation coefficients are statistically not significant at 95% CI.

Thus the above results show that the expenditure and the output indicators of three functions show a positive relationship (Though not significant). Also the partial correlation coefficient after adjusting for percentage of vacancies shows here a positive correlation indicating that expenditure influences the outcome variables %.

Rank correlation shows that there is a positive connection between expenditure of different services and output indicators. So for improving outcome expenditure for different services has to be increased. Even though Kanukunta has higher PCE for different functions, it is not the having highest outcome indicators for different programmes. Since this PHC has least population the expenditure can be less for this or the staff members of the PHC can be shared by the nearest PHC for 2 days in a week to increase the efficiency of the nearby PHC.

6.7. Per-Capita Expenditure of all nine PHCs during 2013-14

The prime objective of any welfare state should ideally be the well-being of all its citizens, especially the 'poorest of the poor. Healthcare ranks very high among the welfare initiatives since a person in poor health can be a drain on the finances of his or her family. This is because many low income individuals are daily wage earners and any absence from work can entail two disadvantages – one, the loss of income for the days of absence and two, the expenditure on medical treatment for the particular ailment. It is a known fact that many ailments are due to unhealthy food habits. It would be preposterous to expect a poor person to be able to afford a diet rich in all the essential nutrients.

A PHC is expected to look after the primary health needs of the population it serves. It should ensure that the patients are provided the best medical care, advice and referral services (in case the ailment has to be treated by a more specialised medical facility). All these services entail a certain degree of expenditure.

Per capita expenditure was calculated for all activities combined by dividing the expenditure with the population based on population of the PHC. Per-capita expenditure has not always been in proportion to the total population served by the respective PHCs. There is no uniformity.

Similarly Per capita expenditure on drugs was also calculated for each PHC for 2013-14.

The expenditure of different functions include salary, capital (excluding building, vehicles, and large equipment), recurring expenditure on salary expenditure on

operational and maintenance, major repairs, etc., (the detailed list is given in Appendix.4 page no 157).

Table 6.15: Expenditure of PHCs for different functions during 2013-14 (In Rs)

PHCs	Illness	Maternal and Child health	Family Planning	Communicable Diseases	Environmental Sanitation	All functions	Population
JINNNARAM	1646674	1623530	1951454	1481424	1145923	2399641	48698
GUMMADIDALA	1451616	1239955	1501564	1113968	763291	1632958	30209
KANUKUNTA	825497	677286	784065	721233	312771	1265802	8969
RC PURAM	1896826	2140339	2536102	1800529	1371543	2633736	82301
BHANOOR	2242129	2121696	2922162	2231129	1852799	11369915	125819
MUNIPALLY	2045671	2288931	2424378	1467566	919471	2713079	39309
KANDI	1876391	1974476	2427625	1630086	999041	2870776	62300
KONDAPUR	2165488	2421091	2516409	1723263	1220313	2639487	43026
ATHMAKUR	2128026	2316514	2698095	1992678	1356575	2812003	49780
TOTAL for 9 PHCs	16278318	16803818	19761854	14161876	9941727	30337397	490411
AVERAGE	1808702	1867091	2195762	1573542	1104636	3370822	

Source: Filed Work

Note: Total expenditure here includes Capital expenditure under PHCs, and sub-centres expenditures, recurring expenditure under PHCs and sub-centres and salaries.

Chart 6.6: Expenditure of PHCs for different functions during 2013-14 (In Rs)

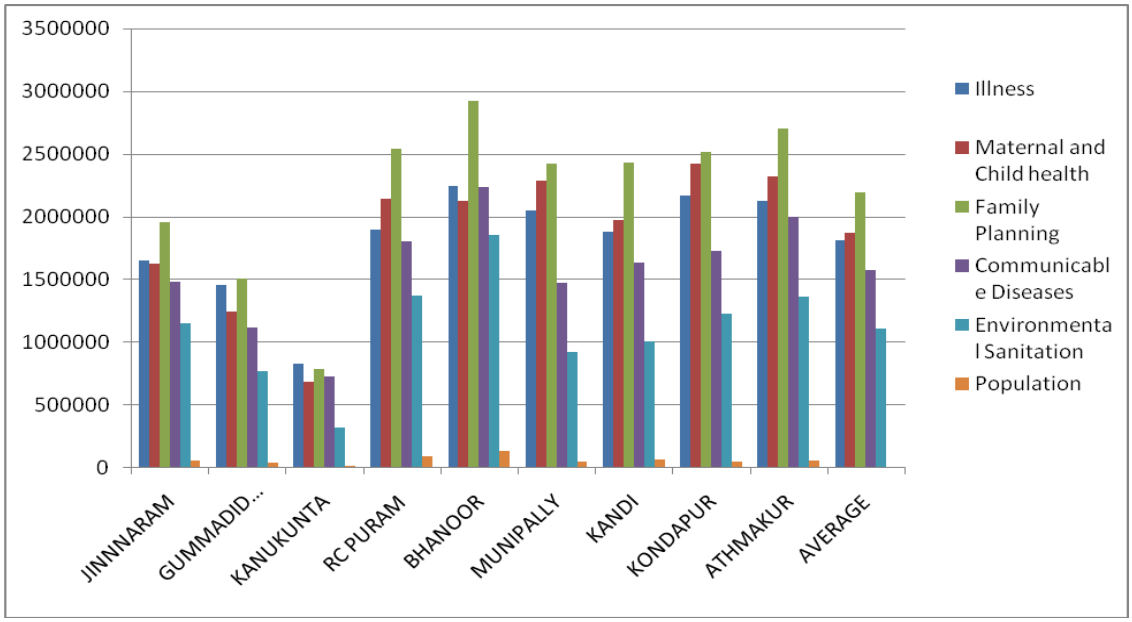
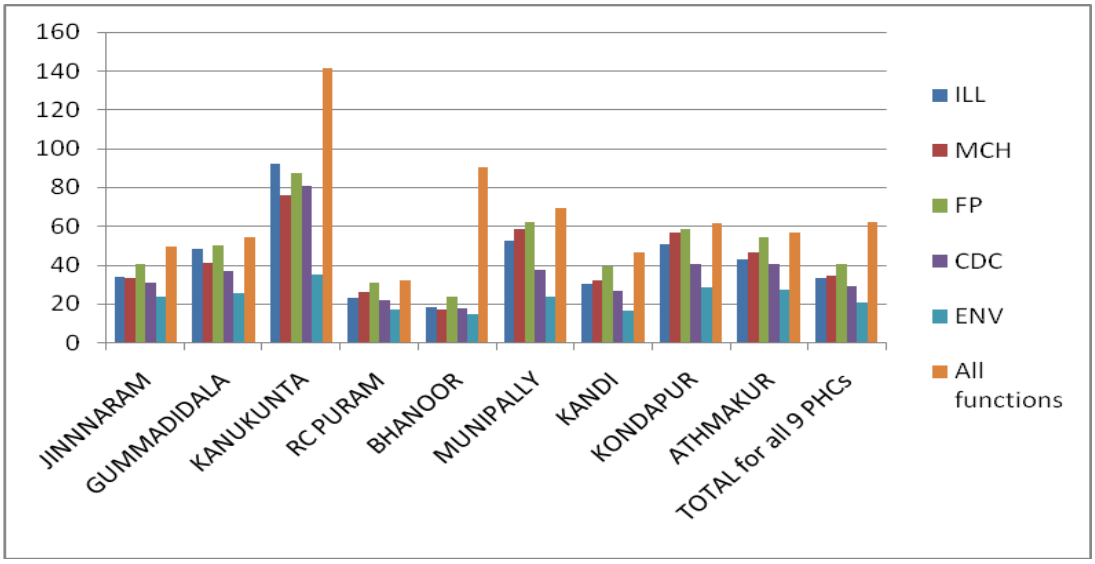


Table 6.16: Per-capita expenditure of PHCs for different functions during 2013-14 (In Rs)

PHCs	ILL	MCH	FP	CDC	ENV	All functions
JINNNARAM	33.81	33.34	40.07	30.42	23.53	49.28
GUMMADIDALA	48.05	41.05	49.71	36.88	25.27	54.06
KANUKUNTA	92.04	75.51	87.42	80.41	34.87	141.13
RC PURAM	23.05	26.01	30.81	21.88	16.66	32
BHANOOR	17.82	16.86	23.23	17.73	14.73	90.37
MUNIPALLY	52.04	58.23	61.67	37.33	23.39	69.02
KANDI	30.12	31.69	38.97	26.17	16.04	46.08
KONDAPUR	50.33	56.27	58.49	40.05	28.36	61.35
ATHMAKUR	42.75	46.54	54.2	40.03	27.25	56.49
TOTAL for all 9 PHCs	33.19	34.26	40.3	28.88	20.27	61.86

Sources: Field Work

Chart 6.7: Per-capita expenditure of PHCs for different functions during 2013-14 (In Rs)



Data from the Tables 6.15 and 6.16 show that, the Total Expenditure of PHCs and per-capita expenditure were not always in proportion to the total population served by the respective PHCs. For instance. Kanukunta, serving a population of only 8969 had a per capita expenditure of 92.04, on curative care whereas RC Puram serving 82301 persons had the figure of only Rs 23.05. Only Bhanoor PHC serving a population of

125819 was the only other PHC with a per capita expenditure of over 17.82. In the case of other PHCs, the figures ranged between 30.12 to 52.04 for Kandi and respectively Munipally.

In case of Family Planning, Kanukunta PHC is having the highest per capita expenditure i.e. 87.42. Followed by Munipally with 61.67 and Kondapur with 58.49. Per capita expenditure on FP is low in case of Bhanoor 23.23, RC Puram with 30.81, Kandi 38.97 and Jinnaram 40.07. But when it comes to service, Bhanoor PHC stands the highest population of 125819.

In case of Maternal and Child Health, Kanukunta has the highest per capita expenditure of 75.51 per person as it serves the low population, followed by Munipally, Kondapur and Athmakur with per capita expenditure 58.23, 56.27 and 46.54 respectively. PHCs with low per capita expenditure are Bhanoor 16.86, RC Puram with 26.01 followed by Kandi with 31.69, Jinnaram with 33.34 and Gummadidala with 41.05.

In case of CDC, Kanukunta has the highest per capita expenditure of Rs 80.41 followed by Kondapur, Athmakur with 40.05 and 40.03 respectively. Bhanoor has the lowest per capita expenditure of 17.73 but it serves the highest number of population and spends highest expenditure (Rs.2, 23,112). Gummadidala spends less than RC Puram but has a per capita expenditure of 36.88 which is more than RC Puram.

In case of Environmental Sanitation, Bhanoor serves the highest number of population and spends highest expenditure and the PCE for Bhanoor was Rs14.73, whereas, Gummadidala serves the smallest population among other PHCs but in terms of total expenditure it spends only Rs 3, 12,771, followed by Bhanoor, RC Puram spends Rs 1,37,154,3 for environmental sanitation but has the lowest per capita expenditure of 16.66. Kondapur, Athmakur, Gummadidala and Jinnaram have a per capita expenditure of 28.36, 27.25, and 25.27 and respectively. These PHCs spend relatively good amount on environmental sanitation.

When the per capita expenditure of all functions was combined, it was found that Kanukunta, had a per capita expenditure of Rs 141, which is the highest followed by Bhanoor, Munipally, Kondapur and the least is for R C Puram the above analysis

indicates that the expenditure of all functions for PHCs are not in proportion to their population.

One policy suggestion could be that the allocation of funds to PHCs has to be done based on the population.

6.8. Expenditure on drugs

The expenditure data for drugs was collected from DMHO records for 9 selected PHCs. It was available under four sub-heads, General, antibiotics, fluids and surgical. But function wise data was not available, hence total expenditure was considered for analysis

Table 6.17: Per Capita Expenditure of Drugs for 9 PHCs from 2011-2014 (in Rs)

Sources: Field Work

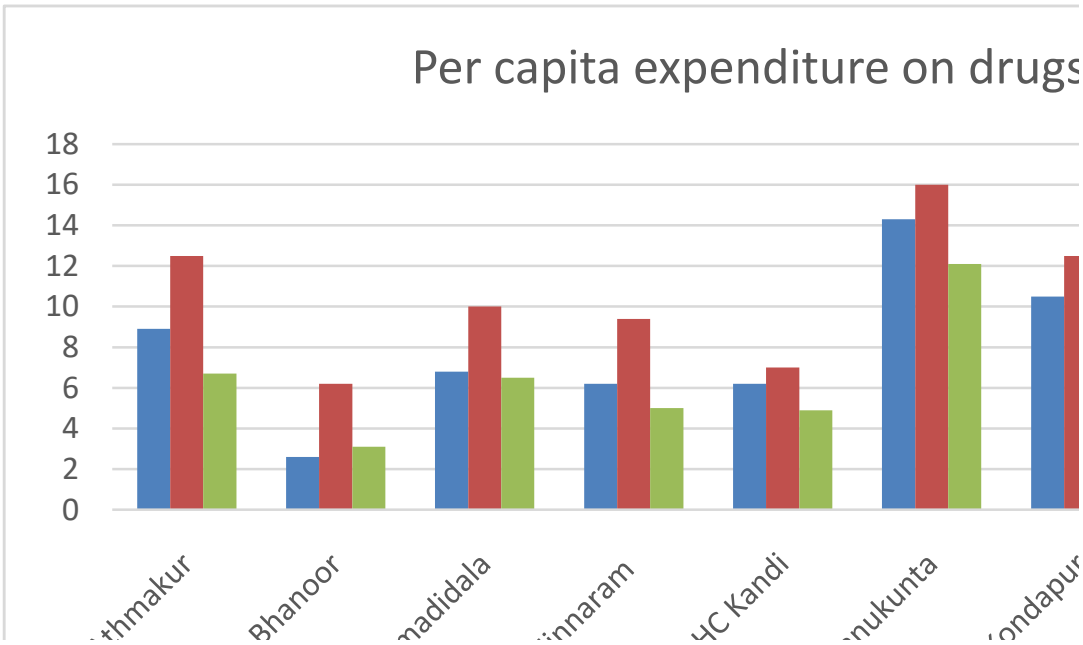
PHCs	Population	2011-12	PCE	2012-13	PCE	2013-14	PCE
Athmakur	49780	442764	8.9	620052	12.5	332639	6.7
Bhanoor	125819	327640	2.6	781429	6.2	394684	3.1
Gummadidala	30209	206319	6.8	301011	10	197775	6.5
Jinnaram	48698	303969	6.2	456028	9.4	241937	5
Kandi	62300	388976	6.2	433130	7	305594	4.9
Kanukunta	8969	128138	14.3	143643	16	108929	12.1
Kondapur	43026	451228	10.5	536120	12.5	454651	10.6
Munipally	39309	468643	11.9	543940	13.8	479624	12.2
R.C.Puram	82301	484027	5.9	824339	10	307996	3.7

The data of Table 6.17 indicates that Kanukunta has the highest per capita expenditure on drugs from 2011-12, 2012-13 to 2013-14. It was around 14.3 in 2011-12. Which increased to 16 in 2012-13 and reduced to 12.1 in 2013-14. Kanukunta spends highest among other PHCs for drugs because it serves to lowest population among other PHCs. Next is Munipally PHC which spends a per capita expenditure of 11.9 in 2011-12, 13.8 in 2012-13 and 12.2 in 2013-14. Kondapur has a per capita expenditure of 10.5 in 2011-12, 12.5 in 2012-13 and 10.6 in 2013-14. In terms of expenditure, Gummadidala has a Per capita expenditure of 6.8 in 2011-12, 10 in 2012-13 and 6.5 in 2013-14. Bhanoor PHC has the lowest per capita expenditure among all PHCs. In 2011-12 it was 2.6, which rose to 6.2 in 2012-13 and 3.1 in 2013-14. Athmakur has

percapita expenditure of 8.9 in 2011-12, 12.5 in 2012-13 and it drastically reduced to 6.7 in 2013-14.

Jinnaram, Kandi and RC Puram have spent per capita expenditure of each 6.2 and 5.9 respectively in 2011-12. But in year 2012-13 it increased to 9.4,7 and 10, again reduced to 5, 4, 9 and 3, 7 respectively in 2013-14. But these PHCs spend more than Gummadidala which spends the lowest. It has been observed that there is variation in drug expenditure in three years. The expenditure in 2012-13 was higher than 2011-12 and 2013-14.

Chart 6.8: Per Capita Expenditure of Drugs for 9 PHCs in 2011-2014 (in Rs)



The analysis of drug expenditure indicates that the per capita expenditure on drugs is the highest in 2013-14 for Munipally followed by Kanukunta, Kondapur, and the least is for Bhanoor PHC. The allocation for drugs should be based on the size of the population of the PHC and also disease profile.

Programme specific expenditure has components of salary, capital expenditure, the allocation of 'Salary' of PHC functionaries was done on the basis of individual per cent of time spent on each activity. For instance, the salary of the Auxiliary Nurse Midwife (ANM) was allocated proportional to the time devoted by her to Direct Service activities for getting cost for direct services of different activities. The same

yardstick was applied for the support staff (pharmacists, clerks, sweepers, etc). Then salary component of all PHC staff members was added to get salary expenditure for each PHC.

Also expenditure on capital, recurring for each function was obtained from PHC records and expenditure on drugs for all functions together was available from PHC records.

The expenditure on drugs was not available function wise at the PHC level. Based on the activities and output indicators of PHCs, the drug expenditure was divided into MCH (15%), Illness (50%), FP and (15%) CDC (20%). Now the expenditure for salary, capital, recurring and drugs was added for each function. The expenditure of different functions includes salary, capital (excluding building, vehicles, and large equipment), recurring and expenditure on drugs.

6.9. Conclusions

From the time allocation data, the allocation of cost for different activities was done on the basis of percent of time spent by the workers on that activity. The component of salary of PHC staff members was allocated to appropriate programme categories in the same proportion as the Direct Service Time of those programmes. Similarly the cost allocation for the four Direct Service Programmes was done on the basis of the proportionate time spent on various programmes by the PHC staff.

The unit cost of producing an FP outcome indicator is higher for all PHCs combined (Rs 67034) followed by MCH outcome indicator (17605), illness indicator (IP+OP-1425), It was found that the unit cost of producing an output indicator for illness and MCH is the highest for Kanukunta PHC because of lower outcome indicator and for FP, it was highest for Jinnaram.

The component of salary of PHC staff members was obtained for different programmes in the same proportion as the Direct Service time allocation to those programmes by the staff members. Also expenditure on capital, recurring for each function was obtained from PHC records and expenditure on drugs for all functions was also obtained.

The expenditure on drugs was not available function wise at the PHC level. Based on the activities and output indicators of PHCs, the drug expenditure was divided into MCH (15%), Illness (50%), FP and (15%) CDC (20%). The expenditure for each function includes salary, capital (excluding building, vehicles, and large equipment), recurring and expenditure on drugs. For illness, the outcome variables are inpatients at PHC level, and out patients (new cases) and old at PHC level and outpatients at the sub-center level. The other variables are expenditure for illness, percentage of vacancies in the PHC.

Rank correlation shows that there is a positive connection between expenditure of different services and output indicators. So for improving outcome expenditure for different services has to be increased. Even though Kanukunta has higher PCE for different functions, it is not the having highest outcome indicators for different programmes. Since this PHC has least population the expenditure can be less for this or the staff members of the PHC can be shared by the nearest PHC for two days in a week to increase the efficiency of the nearby PHC.

When the percapita expenditure of all functions combined, it was found that Kanukunta, had a percapita expenditure of Rs 141, which is the highest followed by Bhanoor, Munipally, Kondapur and the least is for R C Puram the above analysis indicates that the expenditure of all functions for PHCs are not in proportion to their population.

One policy suggestion could be that the allocation to PHCs has to be done based in population.

CHAPTER 7

CONCLUSIONS AND POLICY RECOMMENDATIONS

Throughout the World health care systems are shaped by the historical context of their countries as well as prevailing political, economic and geographical conditions. Many developing countries inherited a health system after their independence from Colonial rule that primarily focused on curative care. But it was built to care a selected portion of the population only, leaving out the rural poor. Although some achievements in health were noticed by 1950 and 1960, infectious diseases were still widespread. By 1970, it became clear that the health systems in the respective countries were not able to achieve the health outcomes desired by the World Health Organization (WHO). The high prevalence of infectious diseases, high infant and maternal mortality rates in the countries of Asia, Africa and Latin America made it clear, that the inherited health infrastructure was not adequately suited to cater the needs of the population.

Then there was a realization about the linkage between low health status and under development characterized by low productivity, high unemployment rate, malnutrition, and environmental degradation. UNICEF and WHO convened a global conference in 1978 in Alma Ata to address these issues and adopted the "Primary healthcare approach."

It was felt that radical changes were needed in health care to effectively address the plethora of health problems in the World. Seven principles were laid out to promote equity in health care. They are, Community adaptation of the health systems to socio-cultural and political conditions, a shift towards more preventive and primitive care, focus on health education and development of other health related sectors like agriculture and housing were the main points.

India also had adopted PHC approach since 1978 to address the health issues. India has developed a massive and impressive infrastructure of more than 20,000 PHCs and 30,000 sub-centres to provide primary health care in rural areas. In spite of the large investments

in health sector, the results have generally not been commensurate with the manpower, financial and other resources invested in this sector. Mortality and morbidity have declined slowly. Because of problems in the PHC system in India, majority of people are using private sector for basic curative health services. This was observed by National Family Health Survey data on treatment for diarrhea and fever/cough and from recent data from the UNICEF supported Multi indicator Cluster Survey in Gujarat.

For various compelling reasons, governments often finance and provide social services like basic health care and education. Since the public resources are usually limited in developing countries, the efficiency in spending the scarce resources becomes an important dimension of social services. Public health programmes are expected to provide the greatest benefit within the limited resources available so that the patients and the community get at least the optimal, rather than maximum, health care. When public health facilities are weak and accountability for the use of public resources is low, the public expenditure on health may not result in the expected health outcome for the community. On the other hand, the resources provided to the public health facilities are underutilized in India. Underutilization of the public health facility hospitals arises due to reasons like: poor resources, weak administration, vacancies not filled, shortages in supply of medicines and equipment, absenteeism among staff and improper location. All these can lead to the wastage of public resources. Unless the efficiency of spending increases, any extra fund allocated could be wasted. Improving the utilization attracts more patients and reduces the per capita cost. High volume of patients can enable the PHC to attend to a larger number of patients at a lower cost.

In India, the public expenditure on health care has come down considerably in recent years due to the structural adjustment policies. The reduced spending on health care can lead to an increase in imbalances and inequities between the poor and the rich in health outcomes. Under such circumstances, understanding how best the public health resources are utilized at the hospital level becomes very important for policy makers. Method applicable in the Indian setting that can highlight the distribution of health expenditures by functions.

While resources are limited, the demand for health care facilities has been rapidly growing in India - as in most of other countries. There is a need for efficient utilization of resources that are services are available to meet the growing demand for health services. In order to promote efficiency and arrive at right decisions about priorities, studies of cost are very important for various programmes and activities in the field of health.

The cost of medical treatment of an average patient could vary from country to country - and even regions within a country. Still, there has to be at least some minimum level of allocation of resources for medicines. Any amount below that could be considered as inadequate. Despite its loud proclamations of being welfare state, even today. India does not have a uniform national policy on how much money should be provided on per capita basis for medicines within the PHC system. Each state seems to have its own agenda on this issue.

In most of the developing countries very little information is available about the costs of public health services in spite of its usefulness, especially health planning. It is also needed for health budgeting, where information on total and unit cost of services is required to assess the financial requirements of programme maintenance or expansion. Further, several important policy questions require cost data for proper analysis. Direct costing of services can provide detailed estimates of allocation of resources for comparing programme and planning priorities. Cost data can also be used to measure the service efficiency or productivity and hence support efforts to improve the management of health services.

The phenomenal advances in medical practices have helped in curing many diseases. It is only a question of approaching the appropriate medical centre in time. Today; there is growing recognition of the importance of primary healthcare for providing health services to a majority of population.

Also, there is limited availability of literature on costs spent per service delivery at level of primary health centers and the present literature is more than a decade old which limits its application. Most of the health costing studies in India highlight the cost of delivering

particular services like pediatric care, referral transport, newborn care in district hospitals, specific diseases like respiratory diseases or typhoid and service provider like at primary health center or district hospital.

In view of the above mentioned applications, the lack of adequate data on service costs is a cause of some concern. Very little attention seems to have been paid to study the economic cost of primary health care services in India. Not much analysis was done on the allocation of the resources (both manpower and material) on different services like Family Planning, MCH, Curative services, etc., Also what proportion of the total expenditure is incurred on salary or supplies and the inputs on which the expenditure is maximum. Such information can be helpful for proper planning and effective management of limited resources available in the PHCs.

After more than 70 years of the idea of PHC coming into vogue, it was considered most topical and relevant to examine the functioning of PHCs (especially from the expenditure angle) so as to identify its areas of success and shortcomings. The intention behind such an exercise is to help the concerned stakeholders to improve the work culture and utility of this PHCs. Considering the huge size of India; it would have been a stupendous task to conduct a nation-wide study in the country. It was, therefore, decided to restrict the study to nine selected PHCs in Medak district of Telangana state. It needs to be clarified here itself that, while some of the findings have universal applicability, some may be pertinent to only some areas of the country.

Objectives of the Study:

The main objectives of this study are:

1. To understand the functioning of the Primary Health Centres in the study area,
2. To examine the distribution pattern of the expenditure of the PHCs by functions and components,
3. To estimate the per unit cost of all activities, as also the per capita expenditure on each of these activities,

4. To explore the relationship between expenditure of the PHC on different services and output indicators of different services.

There are 3 different methods for cost analysis

1. Accounting based cost studies

It can be applied to a single hospital .It involves a detailed examination of hospital accounts, staffing patterns and admissions. It is also possible although somewhat less accurate, to derive hospital accounting costs by using aggregate government budget or expenditure data. Here average unit cost can be assessed.

2. Statistical method

Less detailed data is required in this method, but it requires observations of costs and service use for many hospitals.

3. Economic cost method

The analysis of cost lines provides a framework for analysing the relationships between inputs to health care and the costs.

Cost accounting method was used to find the allocation of resources among PHCs. This method if applied in a representative sample of PHCs on a continuous basis, should be of considerable value for comparing expenditure within the PHC system and monitoring trends in these expenditure. Specifically the application of this procedure would: (a) assist in establishing better administrative control over PHC expenditure,(b) provide information essential for preparing adequate PHC budgets, (c) offer a functional basis for distribution of expenses when computing costs of specific programmes such as family planning, (d) make available the necessary data for calculating unit costs for services rendered, and (e) be of crucial importance for making appropriate planning decisions regarding PHC programmes.

Chapterisation

The thesis has been divided into 7 chapters. ***First*** chapter starts with introduction to the problem, review of literature, identification of research gaps, the objectives and significance of the study. The second chapter Methodology adopted for the study, in the selection of the PHCs, sources of data collection, plan of analysis and the detailed method of calculation, percapita expenditure of different services and unit cost of provision different services in PHCs. ***Third*** chapter gives the detailed profile of the selected PHCs in Medak district. ***Fourth*** chapter examines the factors affecting the performance of PHCs. ***Fifth*** chapter examined the Distribution of Expenditure of PHCs on Various Programmes and Components for 2011-14. Chapter ***sixth*** brings out the estimation of the cost per unit of services of various programmes at PHCs, and time allocation of PHCs, drug expenditure, and percentage of vacancies and the output indicators of different services. Percapita expenditure of different services of PHCs. If further brings out rank correlation between the expenditure. The ***Seventh*** chapter brings out the Summary and Policy implications of the thesis.

For fulfilling the objectives the appropriate methodology was adopted in this thesis. Nine PHCs and 85 sub-centres from Medak district were selected for the study. Purposively Data was collected from secondary and primary sources. This study utilized a variety of methods for collecting data from district, PHCs and Sub-Centres depending upon the nature, type and quality and quantity of data requirements, in keeping with the objectives of the study.

In the present analysis accounting based cost analysis was used to distribute the resources at the PHC level. Cost data was collected from all the 9 PHCs, from their records for 2011-12, 2012-13 and 2013-14. From the cost data major health functions of PHCs. were grouped into five categories. The five functions are as follows:

(1) **Illness care (ILL).** This includes the total number of beneficiaries, who were provided services at the OPD of the particular PHC/SC.

(2) **Maternal Child Health (MCH**). Activities under it were categorized into two groups, as follows:

(a) **MCH care** (excluding Immunization service). This included Anti-Natal Care (ANC) Post-Natal Care, Deliveries conducted, baby checkups, etc.

(b) **Immunization services.** These included TT to pregnant mothers, BCG, DPT, and TT Polio given to children. The indicator for the immunization was the number of injections/doses administered in the accounting year.

(3**) Family Planning (FP**). This was measured by two ways: (i) the total number of beneficiaries of various FP methods, and (ii) converting these figures to sterilization equalization,

(4**) Communicable Disease Control (CDC)**. This took into account all activities involving mass communicable disease control and

(5) **Environmental sanitation (ENV**). This included all activities related to community Environmental sanitation.

Within each of these five functions, a further sub division was made based on the type of activity. They are three activities.

(1) **Direct delivery of services**: Curative Care, FP, MCH, and other programmes,

(2) **Administrative, or Supportive Activities**. These involved the work with records and reports: preparation of supplies; maintenance and cleaning; liaison with health and community officials; travel, transit, and waiting; routine administrative discussions; ill-defined technical work related to specific services; and staff communication, supervision, and education,

(3) **Non productive or personal activities.** The data covered all the expenditure data was categorized into five functions and also into three sub- categories in each function. The amount of time spent on these activities by each PHC staff was collected.

All the expenditure data was categorized into five functions and also into three sub-categories in each function.

Two types of costs data was collected Capital and Recurring for analysis. The capital cost was considered important from a long term investment perspective of primary health care in PHCs. Capital cost includes cost of Equipment, Furniture, etc., Recurring cost is relevant to annual budgeting of Primary Health Centre facilities. Recurring Cost included all costs on salaries, drugs and consumable, and costs on major repairs etc,.

In chapter 3, the Profile of the Medak district was described followed by the description of PHCs. From the observation in the field it was found out one of the main reasons for the under utilization of PHCs and low functioning of the PHCs, are the poor attitude of staff. Others are non-availability of doctor in all working days, lack of accountability, lack of injections. Another reason is that many PHCs lack even basic elements of infrastructure and inconvenient opening hours is another problem that was observed daily field visit. The situation is that some PHCs (Kanukunta and Munipally) have limited opening hours and no one is available to the patients in the evening or during the weekends.

To ensure the regular availability of the doctors for rural PHCs, government should make rural service as compulsory for Medical graduates and provide proper amenities to medical officers. Proper electricity with power back-up, telephone service, and regular water supplies should be the basic requirements of all PHCs.

The fourth chapter describes Various Services provided by the nine PHCs under study, during the period April-September 2013-13 (6 months only). Based on the services provided by the PHCs, relative performance of these PHCs can be analyzed. Each PHC was given some target for each activity. The achievements of the PHCs with respect to targets of different programme achievements are mixed. For those which could not achieve the targets, special attention has to be paid in finding the problems and find solutions.

The analysis of fifth chapter on Distribution of expenditure on different services at the PHC level in all financial years, found that the expenditure was highest for Maternal and Child Health (MCH), followed by Illness care (ILL) and Family Planning (FP), Communicable Diseases (CDC) and Environmental issues (ENV) in the order of priority. When the sub-centres were considered, the activities, in the order of priority emerged as Communicable Disease (CDC), Family Planning (FP) and Maternal and Child Health (MCH).

When the expenditure (capital and recurring) of all PHCs and all sub-centres together was analyzed it was found that the order of priority was MCH followed by CDC, ILL, FP and ENV.

The sixth chapter gives the allocation of time of staff members of PHCs into different programmes. For this, purpose, special time use form was prepared to the doctors, supervisors and workers for reporting, their daily activities and time spent on each activity. These schedules were filled up by the scholar by observing their activities every day at the PHC for a couple of days. The data was collected from MPH female, male and ANMS by asking them the activities and the time spent on each activity. Thus, each worker reported about the place of work, activities carried out for direct services of curative care (CC), Family Planning (FP), Maternal and Child Health (MCH), and other programmes, (Supervision, waiting time, travelling time, record keeping) Administrative and support services and non-productive personal activities.etc. The total number of hours of allocation of time per every week was filled for each activity and converted into monthly hours. The units in hours attained for different activities were summed up for estimating the time devoted to different activities,

The analysis of time devoted to various activities, indicated out that medical officers devoted the maximum time to ‘Others’, followed by illness (ILL), Family Planning (FP) and Maternal and Child Health (MCH). Communicable Disease Control (CDC) and Environmental Sanitation (ENV) occupied the least time. Mostly the ‘others’ include administrative work and various meetings.irs of PHCs.

From the interaction with the doctors, it was found that about 83 per cent of the doctors were not satisfied with the available facilities to have safe deliveries in PHCs. The condition of the houses/quarters given to the doctors by the government was found to be very poor working pattern in the PHC is one of the major problems complained by the doctors. The urgent need of the PHC is to appointment the suitable staff where it is lacking.

The present working pattern of doctors is required to change. State should think more practically in this regard. The frequency of meetings that Medical officers are supposed to attend should be curtailed. Otherwise most of the time is likely to waste on unskilled activities. Further local authorities should not interfere in the medical affairs of PHCs.

The Multipurpose Health Education Officer (MPHEO), on the other hand, devoted the maximum time to Family Planning, followed by illness (ILL) and Maternal and Child Health (MCH) in that order. Environmental protection, 'Others' and Communicable Disease control (CDC) figured relatively low in the time allocation.

The Multi-Purpose Health Supervisor (MPHS) (F) and (MPHS) (M) were found to be devoting equal attention to ILL, MCH, FP, CDC and Environmental protection.

The Multi Purpose Health Assistant (MPHA) (M) and MPHA(F) were found to be concerned about 'Others', CDC, Environmental Protection, FP, MCH and ILL, in that order. The staff nurse was not found to have any role in environmental protection and CDC, but was found to concentrate on ILL, FP and MCH, in that order.

The major areas where the pharmacist and laboratory technician were found to be engaged in were: ILL, MCH, FP and CDC. When the time allocation the Public Health Nurse (PHN) was examined, it was found that this person devoted the maximum time to MCH and FP. Since the senior assistant was largely handling administrative work, this person was found to devote maximum attention to 'Others'. In a similar vein, the 2nd and 3rd Auxiliary Nurse Midwife (ANM) s devoted the maximum time to ILL, MCH and FP. It did not come as a total surprise that the sweeper and contingency worker devoted

the maximum time to environmental Sanitation since these persons are largely responsible for keeping the premises neat and tidy. Yet, their role in services like CDC, ILL, MCH and FP cannot be totally ignored.

The PHCs devoted the maximum time to FP services. At the other end of the spectrum were the issues related to environmental protection and CDC. Illness and MCH seemed to have been given almost equal importance by all the PHCs.

Unit Costs per output of various programmes

For calculating unit cost for providing various services one needs expenditure data of various services and the output indicators of the services.

From the programme specific time allocation data on salary of staff members was obtained from PHCs, the allocation of salary component of cost for different activities was done on the basis of per cent of time spent on direct services by the workers on that activity. The component of salary of PHC staff members was allocated to appropriate programme categories in the same proportion as the Direct Service Time allocation to those programmes. Also expenditure on capital, recurring for each function was obtained from PHC records and expenditure on drugs for all functions together from PHC records was also obtained.

The expenditure on drugs was not available function wise at the PHC level. Based on the activities and output indicators of PHCs, the drug expenditure was divided into MCH (15%), Illness (50%), FP and (15%) CDC (20%). Now the expenditure for salary, capital, recurring and drugs was added for each function. The expenditure of different functions includes salary, capital (excluding building, vehicles, and large equipment), recurring and expenditure on drugs.

Rank Correlation

The expenditure data is taken for 6 months only because the output indicators of PHC are available for 6 months (April 2013-September 2013) only. The output indicators are

correlated with the expenditure of each function capital (includes replacement major repair maintenance works, large equipment, furniture of PHC and recurring which includes salary, maintenance, minor repairs, electricity, telephone, internet, stationary, utility bills, etc.,) by Rank Correlation.

The value of R lies between ±1 such as:

R =+1, there is a complete agreement in the order of ranks and move in the same direction.

R=-1, there is a complete agreement in the order of ranks, but are in opposite directions.

R =0, there is no association in the ranks.

In the current analysis rank correlation is calculated for each function of the PHCs. For example for illness, the outcome variables are inpatients at PHC level, and out patients (new cases) and old at PHC level and outpatients at the sub-centre level. The other variables are expenditure for illness, per centage of vacancies in the PHC.

For MCH the outcome indicators are given weights as: ANC (0.2) delivery institutional (0.6), and PNC (0.2) and the weighted outcome indicator for MCH is obtained + fully immunization.

For Family Planning, Sterilization equivalents are calculated by converting 3 IUD = 1 Sterilization, 9 Oral Pills = 1 Sterilization, and (18 Condoms) = 1 Sterilization.

Rank correlation shows that there is a positive connection between expenditure of different services and output indicators. So for improving outcome expenditure for different services has to be increased. Even though Kanukunta has higher PCE for different functions, it is not the having highest outcome indicators for different programmes. Since this PHC has least population the expenditure can be less for this or the staff members of the PHC can be shared by the nearest PHC for two days in a week to increase the efficiency of the nearby PHC.

Per-Capita Expenditure

A PHC is expected to look after the primary health needs of the population it serves. It should ensure that the patients are provided the best medical care, advice and referral services (in case the ailment has to be treated by a more specialized medical facility). All these services entail a certain degree of expenditure. Per capita expenditure was calculated for all activities combined by dividing the expenditure with the population of the PHC.

The expenditure of different functions include salary, capital (excluding building, vehicles, and large equipment), recurring expenditure on drugs expenditure on operational and maintenance, major repairs, etc. It was found that the Per-capita expenditure has not always been in proportion to the total population served by the respective PHCs. There is no uniformity. Similarly Per capita Expenditure on drugs was also 2013-14 for the year calculated for each PHC.

When the percapita expenditure of all functions combined, it was found that Kanukunta, had a percapita expenditure of Rs 141, which is the highest followed by Bhanoor, Munipally, Kondapur and the least is for R C Puram the above analysis indicates that the expenditure of all functions for PHCs are not in proportion to their population.

One policy suggestion could be that the allocation to PHCs has to be done based in population.

To make certain quality of medical service government shall think about the appointment of one more Graduate doctor for 24X7 PHCs to work in shift system. There is urgent requirement on the part of the state to think over the drugs available for maternal care. Special training should be given to the paramedical officers regarding.

Suggestions for Further Research

Due to limitations like lack of time, financial resources the current study has a restrictive scope; the researcher could examine only a few issues related to PHCs during her research study. The following areas could be taken up for detailed examination for future research.

Comparison of the outcome of this study in United Andhra Pradesh with those of the neighboring states and states like Maharashtra, Tamil Nadu, Bihar, Uttar Pradesh, Madhya Pradesh, Jharkhand and Chhattisgarh.

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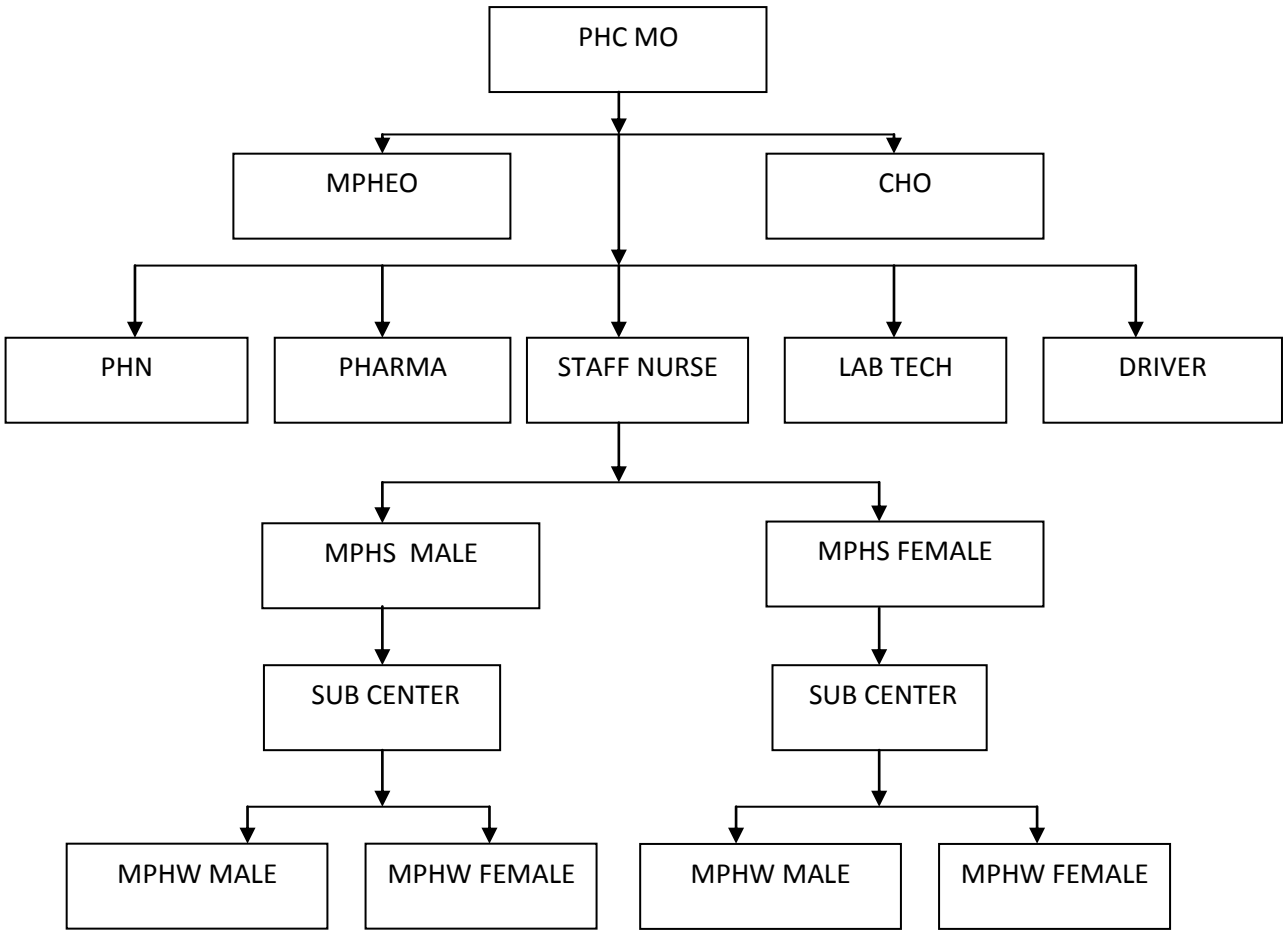
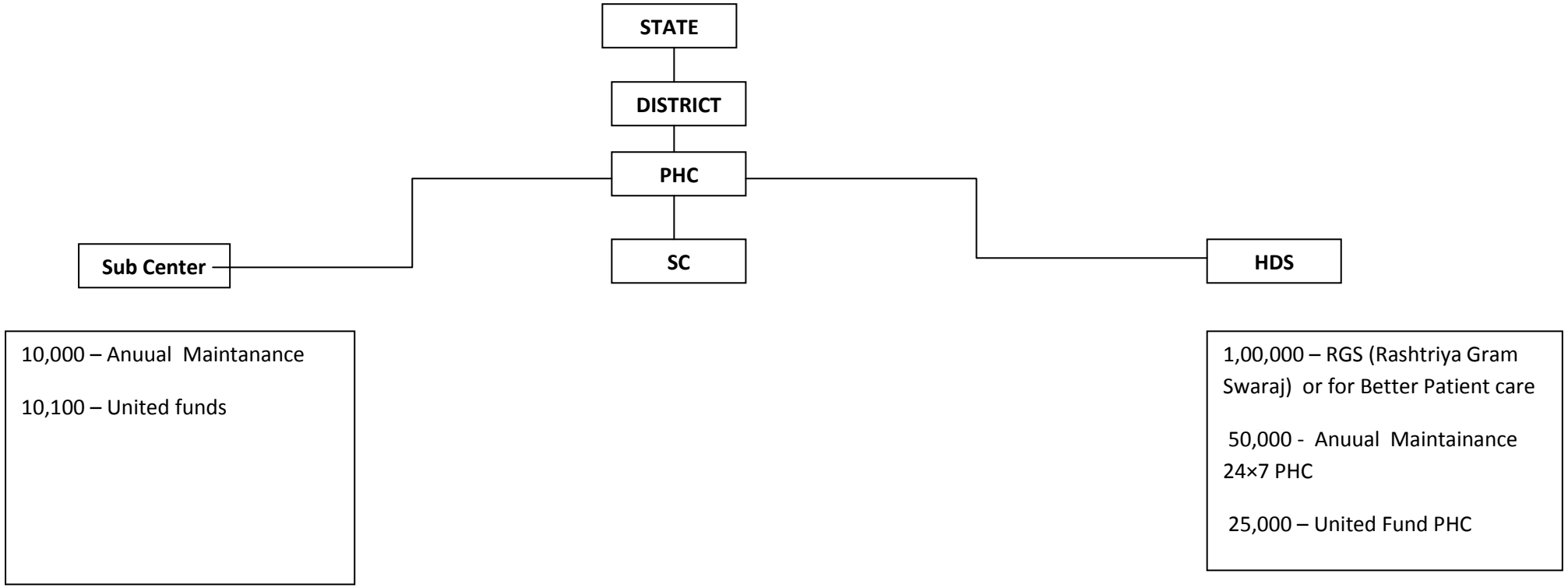
APPENDIX : 1

CHART- 1 STAFF PATTERN



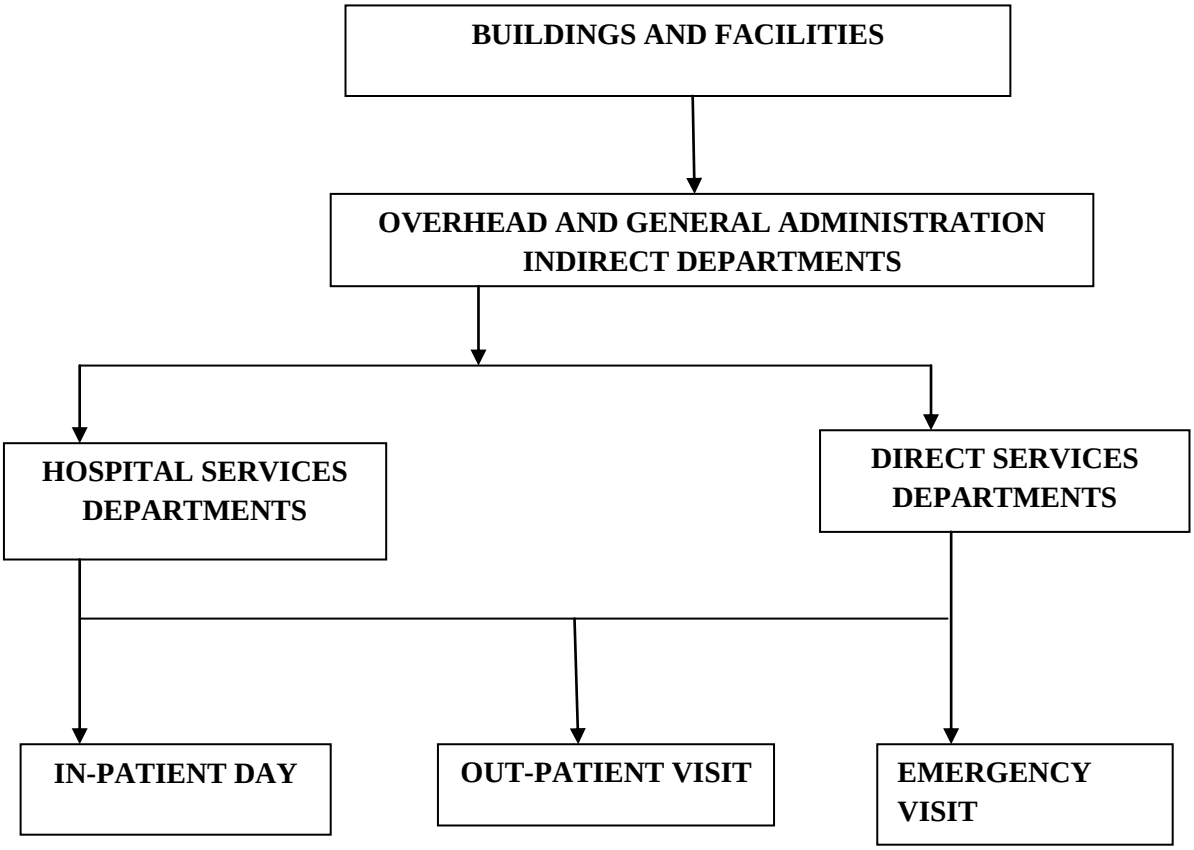
Appendix: 2

DISTRIBUTIONS OF FUNDS



Appendix: 3

DISTRIBUTION OF FUNCTION OF WISE EXPENDITURE OF PHCs



Appendix : 4

CAPITAL EXPENDITURE UNDER PHCs

The items included in capital expenditure under PHCs, under Sub- centres and recurring expenditure under PHCs and Sub-centres is given in Appendix.

Major Repair Maintenance work:

Grill fixing, patch of work at wall, Cupboard replacement and Racks for records, Ceiling roof, Renovation of toilets, Replacement building for decent board, Tilling, Fixing gate for Hospital building for decent look, Replacement board, Door, Changing bulbs, Routine repairs, Tiles stones fixing.

Water supply and sanitation: fixing up basin, motor pump, water tank, pipe connection, repair of toilets. Carpenter Work: repair door/windows, cupboard for keeping records, consumables. Drainage pipeline replacing, Replacing tap tubes, Electrician work wiring, replace boards, lights, switches, fans etc., Painting of grill, gate, windows, and hospital beds. Purchase/repair/maintenance of inverter, generator.

Capital Expenditure Untied Funds Sub-Centres:

Repair/maintenance Patch work of wall and floor, flooring/tiling whenever required.

White washing/fixing of grill/gate renovations, front elevation of sub center building for decent look, developing rocks, repair doors/windows, pipe connection, door repair, consumables, wiring, replace boards, painting gate, doors, water for inverter, taps changes, curtains to ensure privacy.

Recurring Expenditure under PHCs:

Repair and maintenance of available equipment, furniture, and maintenance of cleanliness, sanitation. Brooms, bleaching powder and buckets, mugs, waste disposal bins, wall hangings clock at waiting space, minor medical equipment/furniture, delivery tables. Kits, hemoglobin, meter, trey, copper-T insertion kit, baby trey, ambubag and mask, weighing scale for baby, and mothers, scissor, stethoscope, BP apparatus, thermometer, torch light, Water cooler, room heater, water purifier, chairs/benches for patients, purchase/repair fans, almirah for keeping records, etc., purchase of stationary, equipment, training related, emergency drugs for emergency situations, consumables, Special programmes: FP incentives, vaccines, JSY, JSSK, De- Worming, Pulse Polio, Asha incentives, Orientation course.

Recurring Expenditure Untied Funds Sub-Centres:

Purchase of minor medical equipment/instruments/furniture, BP apparatus, laundry, stethoscope, copper-T insertion kit, scale, water heater and cooler, chairs, benches, fans, stationary items, Xerox, papers bundle, cotton packet, sub center painting, white wash, labour charges, medicine, stamp, spirit, needles packet.

APPENDIX 5

6.1 Expenditure for different functions April to September 2013 (In Rs)

NAME OF THE PHC	Jinnaram	Gumadidala	Kanukunta	RC Puram	Bhanoor	Munipally	Kandi	Kondapur	Anthmakur	TOTAL
ILLNESS	4860700	1971298	383017	5202470	3679881	4060914	6011479	4584746.9	4465299.685	38666965
MCH	2022974	993624	1363871	2346387	1927069	2297835.4	2509223	2261145.9	2178642.755	17900773
FP	2186936	750781	1417261	2544267	2247104	2365558.8	2735797	2308805	2369433.755	18925945
STERILISATIONCOMBINED	150.17	115	104	322	324	991	463	586	452	3507
MCHCOMBINED	325	339	227	687	1122	536	878	639	522	5275
TOTALOP	35826	14940	8096	24725	75276	19836	105990	34768	91409	410866
Fully Imunised	318	540	167	1002	543	306	1029	625	940	5470
IP	210	147	101	348	249	330	256	576	237	2454
OP+IP	36036	15087	8197	25073	75525	20166	106246	35344	91646	413320
TOTAL_MCH_OUTPUT	643	879	394	1689	1665	842	1907	1264	1462	10745
UNIT_COST_ILLNESS	135.7	131.9	473.1	210.4	48.9	204.7	56.7	131.9	48.8	
UNIT COST OF ILLNESS(IP+OP)	134.9	130.7	467.3	207.5	48.7	201.4	56.6	129.7	48.7	
UNIT_COST_FP	14563.4	6528.5	13627.5	7901.5	6935.5	2387.0	5908.8	3939.9	5242.1	
UNIT_COST_MCH	3145.2	1130.1	3458.1	1389.5	1157.3	2730.3	1316.1	1788.3	1490.2	

Source: Field Survey

QUESTIONNAIRE (PHCs)

FIELD WORK ON MANDAL PRIMARY HEALTH CENTRE					
1.	Supply Chain of Medicines. As the PHC is the State run Government Institution the Drugs & Medicines are being supplied by the Andhra Pradesh Medical Services and Infrastructure Development Corporation (APMSIDC), Hyderabad, which is the procurement agency for the entire State, through the District Central Drugs Stores to the Hospital.				
2.	Budget allocations				
	a.	Drugs:			
	b.	Operations and Maintenance of Equipment:			
		2011-2012	2012-2013	2013-14	
	c.	Petrol, Diesel & Lubricants:			
		2011-2012	2012-2013	2013-14	
	d.	Other general consumables like disinfectants, soaps, food, laundry etc.,			
		2011-2012	2012-2013	2013-14	
3.		Non-recurring (capital resources)			
	A.	Repair/Maintenance work: patch work,wall,floor,flooring/tiling,fixing grill/gate,renovation of toilets,			
	1.				
	2.				
	3.				
	1.	Replacement Cost:			
	2.	Repair works:			
	B.	Utility			
	C.	Sources of assets			
		Capital assets of PHC	Value	Source	
		Equipment			
		Furniture			
	D	Recurrent			
		Item	Source	Amount	
		Salaries			
		Transportation costs			
		Drugs and Medicines			
		Lab Tests & Stationery			
		Referral food for patients			

4.		Supply of medicines in the last 3 years				
		Current year		Previous year		
5.		No. of in-patients and their diseases for which they were admitted in the last one year.				
6.		No. of out-patients and their diseases in the last one year.				
7.		Time spent by the Staff of PHC in direct services/ programmes				
			Curative care	Family planning	Maternal child health	Others
	a.	Doctors				
	b.	Nurses				
	c.	Supervisors				
	d.	Pharmacists				

8.		Time spent by staff for support services in last one month						
		Each staff cadre	Supervision	Waiting time	Travelling	Record keeping	Meetings	Others

9.		Salaries of each staff in a month				
		Staff name	Design	Salary	Honorarium	Incentives
	1					
	2					
	3					
	4					

QUESTIONAIRE Cost of Provision in Primary Health Care				
I	**General Data**			
1	Name of the PHC			
2	Name of the Mandal in Which PHC is located			
3	Number of Sub Centres under the PHC			
II	**Human resources**			
	Cadre		**Inposition**	**Whether on Contract**
			Yes/No	**Yes/No**
1	Medical officer			
2	2nd Medical Officer			
3	Staff Nurses (Number)			
4	Pharmacist			
5	Lab technician			
6	MPHEO			
7	CHO			
8	PHN			
9	Others			
III	**IEC (Please specify Yes/No for each column based on your observation)**			**Yes/No**
1	Whether PHC name board is visible			
2	Whether availability of drugs displayed			
3	Whether JSSK & JSY displayed			
4	Whether Laboratory services are displayed			
5	Whether Immunisation Schedule is displayed			
6	Whether Sub Center wise E.D.D List is displayed			
7	Whether all information on national programmes displayed			
IV	**Registers (Please mention Yes/No the availability and maintenance of the following registers)**		**Available**	**Maintained**
			Yes/No	**Yes/No**
1	Attendance Register			
2	Movement Register			
3	Duty Roster			
4	ATPC			
5	OP register			
6	Delivery Register			
7	High Risk Register			
8	Epidemic Register			
9	Referal Register			
10	Sterilization Register			
11	HDS Funds Register			
12	Stock Register			
a	Drug Stock Register			
b	Drug Watch Register			
V	**Services (Please provide the performance figures)**			**Current month as on date**
1	OP New			
2	OP Old			
3	IP			
4	Normal Deliveries			
5	Sterilizations			
6	Tubectomy			
7	Vasectomy			
8	IUCD Insertions			
VI	**PHC Building (Please tick the appropriate answer)**			
1	Please mention whether the PHC Building is own or rented			
2	If the PHC has own building then please mention whether it is in good condition or needs renovation			
3	If the building is rented is new building sanctioned for the PHC (Please mention			

	Yes or No)		
4	If yes whether the work has started (Please mention Yes or No)		
5	Is sanitation in & around PHC satisfactory		
6	Whether Bio-Medical waste management procedures followed		
VII	**Electricity (Please specify Yes/No for each column)**		
1	Is there a stabilizer for ILR & DF (Please mention Yes or No)		
2	Is there a Generator or invertor backup (Please mention Yes or No)		
VIII	**Water facility (Please specify Yes/No for each column)**		
1	Is running water available for 24 hours in Labour room / OT / Toilets		
2	Is purified drinking water available for OPD patients & inpatients		
IX	**Toilets (Please specify Yes/No for each column)**		
1	Are separate toilet facilities available for staff and OP/IP patients		
X	**Wards**		
1	Please specify the number of cot and beds available in PHC		
2	Whether there are screens and curtains avaialble for ensuring privacy of patient		
3	Whether the general cleanliness of the ward is satisfactory		
XI	**Furniture & Equipment**	**Available**	**Functioning**
		Yes	**Yes**
A	***Outpatient***		
1	Examination table		
2	BP apparatus		
3	Stethoscope		
4	Thermometer		
B	***Labour room***		
1	Labour table		
2	Delivery sets		
3	Mucous sucker		
4	Oxygen cylinder		
5	Labour rooms drugs		
6	Sterilized gloves		
7	Suction apparatus		
8	All guidelines displayed		
9	Partographs		
10	Angle poised / Spot light in Labour room		
11	Paediatric ambubag		
12	Baby tray		
13	Baby weighing scale		
14	NBCC-baby warmer		
C	***OT/ ward equipment/vaccine***		
1	Emergency drugs		
2	Ambu Bag and mask		
3	Autoclave		
4	Laryngoscope and full set of Endotracheal tubes		
5	Ice lined refrigerator		
6	Deep freezer		
7	Refrigerator		
8	All Vaccines present in stages 1 & 2 of VVM		
9	Hub cutter		
XII	**Laboratory services**	**Facility Available**	**Services Offered**
		Yes	**Yes**
1	Hb estimations		
2	Blood grouping and typing		
3	Urine examination		
4	Sputum AFB		
5	Rapid diagnostic kits for		
6	Malaria		
7	Pregnancy		

8	HIV			
XIII	**MCH services**			
	Special Ante natal clinic			
1	Partographs			
2	Essential new born care: USAGE OF BABY WARMER			
3	Apgar score done for all newborns			
4	Family planning services available at PHC			
5	MOs Training in BMOC, NSSK, SBA			
6	Staff Nurses Training in BMOC, NSSK, SBA			
XIII	**Monitoring & Supervision (Please mention Yes or No under each column)**			**Yes/No**
1	Whether area divided between two Medical officers			
2	Whether all faciltiy based subcentre formats filled in the last month			
3	Has the SPHO visited in this centre in the previous month			
4	If yes Please mention date of inspection by SPHO			
XIV	**Drugs (Please mention Yes or No under each column)**			
1	Whether the essential drugs as per state list available in PHC			
2	Whether the emergency drugs available in labour room			
3	Whether IFA Tablets available			
XV	**Whether SN/ANM know the following (Please mention Yes or No under each column)**			
1	How to fill partographs			
2	How to initiate oxygen in emergenices			
3	How to take measurement of BP			
4	How to conduct fetal examination			
5	How to undertake cervical dilatation assessment			
6	Does the Lab technician able to do Hb, urine examination			
XVI	**Meetings (Please mention Yes or No under each column)**			
1	Whether monthly meetings are conducted			
2	Whether the minutes maintained			
3	When does the last HDS meeting held			
4	Whether minutes of HDS meetings maintained			
XVII	**Referral services (Please mention Yes or No under each column)**			
1	Are Patients referred			
2	Whether referred patients followed up			
XIII	**Status of Funds (Please give in Rs the status at the time of inspection)**	2011-12	2012-13	2013-14
1	Untied Funds (Rs.25000/-)			
2	Annual Maintenance Grants (for PHCs which have own building) (Rs.50000/-)			
3	RKS funds Rs.1,00,000/-			

QUESTIONAIRE (Sub Centres)

I	**General Data**				
1	Name of the District				
2	Name of the Mandal				
3	Name of the PHC under which the SC falls				
4	Name of the Gram Panchayat in which the SC is located				
II	**Human Resource (Please mention Yes or No in relevant columns)**				
	Cadre	**Name**	**In position**	**Vacant**	
			Yes/No	Yes/No	
1	MPHS (F)				
2	MPHS (M)				
3	MPHA(F)-1				
4	MPHA(F)-2				
5	MPHA (M)				
III	**Sub Centre Building**				
1	Please mention whether the Sub Centre Building is own or rented				
2	If the SC has own building then please mention whether it is in good condition or needs renovation				
3	Is the building sanctioned for the SC (Please mention Yes or No)				
4	If yes whether the work has started (Please mention Yes or No)				
5	Whether there is adequate display of IEC materials				
IV	**Stocks at the Sub Centre (Please mention Yes or No in all columns)**				
1	Are there sufficient drugs available in the SC				
2	Are there sufficient condoms and oral pills available in the SC				
3	Are there sufficient MCP cards available in the SC				
4	Whether IDSP 'S' cards in the SC are in adequate quantity				
V	**Availability of Lab Test Facilities at the Sub Centre (Please mention Yes or No in all columns)**				
	Lab Tests	Whether the facility available in SC	Does ANM know how to conduct the test	Whether ANM require training	
		Yes/No	Yes/No	Yes/No	
1	HB test				
2	Urine test				
3	Pregnancy test				
4	RDT test				
VI	**Availability of Equipment at the Sub Centre (Please mention Yes or No in all columns)**				
	Equipment	Whether available	Functioning	Used by ANM	Whether ANM require training
		Yes/No	Yes/No	Yes/No	Yes/No
1	Weighing Scale				
2	Baby Weighing Scale				
3	Solter Scale				
4	BP apparatus				
5	Stethoscope				
6	Fetoscope				
7	Haemoglobinometer				
8	Vaccine carrier				
9	Glucometer				

10	Glucose Strips				
11	Examination table & other furniture				
12	Maintenance of Tikely bag				
VII	**MPHA (M) Services**				
1	Whether open wells chlorinated during the month (Please mention Yes or No)				
2	Whether slides targeted and collected (Please mention Yes or No)				
3	Time lag of getting report from PHC		Week		
4	Whether maintaining Fever Surveillance Register (Please mention Yes or No)				
5	Whether collecting IDSP 'S' forms regularly and sending to PHC(Please mention Yes or No)				
6	Number of TB cases on treatment on the day of inspection				
7	Number of TB cases followed up				
	Note: If MPHA (M) post is vacant please seek the reply for questions 6 & 7 from MPHA (F)				
VIII	**MPHA (F) Services**				
1	Whether ANM attending VHNDs (Please mention Yes or No)				
2	Whether ANM registering Antenatal cases (Please mention Yes or No)				
3	Whether the list of high risk pregnancies maintained by ANM (Please mention Yes or No)				
4	Whether there are coordination problems with Anganwadi workers (Please mention Yes or No)				
5	Number of ANCs with MPHAs (F) on the date of inspection			MPHA (F)-1	MPHA (F)-2
IX	**Satisfactory Maintenance of Registers in the SC (Please mention Yes or No in all columns)**				
	Register			**Yes**	**No**
1	Field Service Register				
2	Stock Register				
3	Funds Register				
4	Chlorination Register				
X	**Monitoring & Supervision**				
1	Has the SPHO visited this centre in the previous month				
2	If yes Please mention date of inspection by SPHO				
XI	**Status of Funds (Please give in Rs the status at the time of inspection)**		2011-12	2012-13	2013-14
	Untied Funds (Rs.10000/-)				
	Annual Maintenance Grants (Rs.10000/-)				
	Sanitation				

cost of provision of Health Care Services in the Primary Healthcare Centers in the Medak District of Adhara Pradesh. (United).

by Anuradha Seelam

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