



Evaluation Study on National Rural Health Mission (NRHM) in Seven States

Volume-I

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**Programme Evaluation Organisation
Planning Commission
Government of India
New Delhi
February 2011**

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in 7 States**

Volume I



सत्यमेव जयते

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Preface

Health-care is one amongst the seven thrust areas identified by the Union Government under the National Common Minimum Programme (NCMP). The NCMP mandates an increase in the expenditure in Health Sector—with main focus on primary health care—from the level of 0.9 per cent of GDP to 2.3 per cent of GDP over the next few years. With this ambition, the Hon'ble Prime Minister of India launched the National Rural Health Mission (NRHM) on 2nd April 2005. It was operationalized throughout the country with special focus on 18 states including the 8 Empowered Action Group States (Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Uttar Pradesh, Uttaranchal, Orissa and Rajasthan), 8 North Eastern States and 2 hilly states of North India i.e. Himachal Pradesh, Jammu & Kashmir.

The main aim of NRHM is to provide accessible, affordable, accountable, effective and reliable primary health care facilities, especially to the poor and vulnerable sections of the population. The mission further seeks to build greater ownership of the programme in the community through involvement of Panchayati Raj Institutions (PRIs), NGOs and other stakeholders at national, state, district and sub-district levels.

Given the wide scope of the mission and multiplicity of activities, Programme Evaluation Organisation (PEO) was entrusted with an evaluation study of NRHM with the broad objectives of:

- assessing the availability, adequacy and utilization of health services in rural areas;
- the role played by ASHAs, AYUSH in creating awareness of health and nutrition among the rural population; and
- to identify the constraints and catalysts in the implementation of NRHM programme.

The study covered 37 district hospitals, 74 Community Health Centres (CHCs), 148 Public Health Centres (PHCs), 296 Sub-Centres (SCs) and 296 villages spread over 7 states of the country. Besides 7400 households were also surveyed by the field investigation teams for collecting the relevant data.

The study has thrown up information crucial to maternal healthcare. It has also highlighted the intricacies in child health care and immunization. The areas like family planning and chronic diseases control services have also been analyzed effectively to suggest ways of improving upon their implementation.

The study reveals that ante natal care is still a grossly neglected area in maternal health care, because 22 per cent of the pregnant women in the sample states are not availing of ANC. However, one of the noticeable features of the programme is 74 per cent pregnant women (in the study sample) making use of health facilities for ante-natal check-ups. On the other hand, the study shows that 51 per cent of the mothers who delivered children in the last 5 years have not availed of any post natal care. As far as family planning is concerned, 88 per cent couples in the sample districts have availed of government health facility for contraception services. The data on chronic disease control services reveal that 74 per cent of the patients have sought services from public health institutions.

The study received constant support and encouragement from Hon'ble Deputy Chairman, Planning Commission and Member Secretary, Planning Commission. The study was carried out by Population Research Centre, Institute for Economic Growth (IEG), Delhi. I extend my Sincere thanks to Prof. S.C. Gulati, Shri Raghubansh M. Singh, Shri Rajesh Raushan and Ms. Arundhati of the IEG for conducting the field study and preparing the report. The study was designed and conducted under the direction of Dr. R. C. Dey, Director (PEO) with the assistance of Ms. Deepti Srivastava, SRO and Shri Bhuvan Chander, Economic Investigator. The study has been brought to the present shape under my overall supervision. The help and co-ordination received from all concerned for preparation of the report is gratefully acknowledged.

New Delhi
February, 2011



(R.A. Jena)
Adviser (PEO)

**Evaluation Study of
National Rural Health Mission (NRHM) in 7 States
(Volume I)**

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Chapter 1

About the Study

Introduction

The National Rural Health Mission (NRHM) was launched by the Hon'ble Prime Minister on 12th April 2005. The architectural corrections enshrined in the Preamble of NRHM document primarily comprised of decentralization, communitization, organizational structural reforms in health sector, inter-sectoral convergence, public private partnership in health sector, mainstreaming Indian system of medicines under Ayurveda, Yoga, Unani, Sidha and Homeopathy (AYUSH), induction of management and financial personnel into health care management and delivery system. The NRHM vision envisaged provision of effective healthcare to rural population throughout the country, to begin with special focus on 18 states in 2005, which had weak public health indicators and weak infrastructure. The architectural corrections intended to enable the healthcare system to effectively handle increased allocations and promote policies that strengthen public health management and service delivery in the country. The mission also intended to adopt synergistic approach by relating Health to determinants of good health viz. nutrition, sanitation, hygiene and safe drinking water.

The Mission seeks to provide accessible, affordable and quality health care to rural populations, especially vulnerable and underserved population groups in the Country. The Mission aims to achieve infant mortality rate (IMR) of 30 per 1000 live births, maternal mortality 100 per 100 thousand live births and total fertility rate of 2.1 by the year 2012. The Mission attempts to achieve these goals through a set of core strategies including enhancement in Budgetary Outlays for Public Health, decentralized village and district level health planning and management, appointment of Accredited Social Health Activist (ASHA) to facilitate access to health services, strengthening the public health service delivery infrastructure, particularly at village, primary and secondary levels, improved management capacity to organize health systems and services in public health, promoting the non-profit sector to increase social participation, and community empowerment, inter-sectoral convergence, up gradation of the public health facilities to Indian Public Health Standards (IPHS), reduction of infant and maternal mortality through Janani Suraksha Yojana (JSY), etc.(NRHM, 2005: MoHFW, 2007). The Mission aims at operationalising existing health facilities to meet Indian Public Health Standards in each Block of the Country. Mainstreaming of AYUSH is needed to facilitate comprehensive and integrated health care to rural population, especially underserved groups in India.

The strategic options before the Mission included integration of RCH, family welfare, and national programs of disease control under NRHM to achieve desired population stabilization goals within reasonable period. The National Disease Control Program (NDCP) comprise of preventive and curative measure for control of Malaria, Filarisis, Encephalitis, Dengue, Kalazar, Leprosy, Tuberculosis, Blindness, Iodine Deficiency disorders, and Polio. However, the National AIDS and Cancer programs were not integrated to the NRHM scheme. A funnel type approach was adopted to ensure the integration of funds for all the national level schemes and thereby the flow of funds to the District Health Mission through the State Health Society. Thus, under the decentralization scheme the district was supposed to be the hub around which all health and family welfare services were supposed to be planned and managed. The

NRHM strategy carefully mentions that the population stabilization goal needs focused attention on basic health care, and access to quality family welfare services for fertility choice or fertility control, not through coercion or disincentives or inducements.

Decentralized Planning and Communitization also encompasses capacity building in terms of training and sensitization of ASHAs, Village Health and Sanitation Committee (VHSC) and Rogi Kalyan Samiti (RKS) members about their roles and responsibilities towards proper utilization of Grants and Funds in the best interest of the users. The financial management also entails evaluation of utilization of untied funds to VHSC, SC, PHC and CHC. Communitization process necessitates involvement of Panchayats in governance of VHSCs, hospital development committees and district health societies. The process parameters for the success of the Communitization process can be adjudged in terms of constitution of VHSCs, recruitment and functioning of ASHAs, constitution of registered Rogi Kalyan Samities at District Hospitals (DHs), Sub-Divisional Hospitals (SDHs), Community Health Centres (CHCs) and Primary Health Centres (PHCs).

The detailed action plan to achieve the objectives comprised primarily of an increase in the public spending on health and family welfare from 0.9 percent to 2-3 percent of the Gross Domestic Product (GDP) during 2005-12. Strengthening of policies and programs to revitalize the health systems through decentralized management at the local level and synergize health with social determinants of health viz. nutrition, sanitation, hygiene and safe drinking water. The Mission strategize decentralization in the administrative and management of the public health care delivery system to effectively meet the health and family welfare needs of the people in diverse social, economic and cultural settings. The Mission also addresses the issue of empowerment of the community to own, manage and control the public health care delivery system.

Study objectives

Given the wide scope of the Mission and multiplicity of activities and being in the fourth year of existence the Planning Commission entrusted an appraisal study of NRHM to the Population Research Centre, Institute of Economic Growth with an objective of evaluation and assessment of the availability, adequacy and utilization of health services in the rural areas, the role played by ASHAs, AYUSH in creating awareness of health, nutrition among the rural population and to identify the constraints and catalysts in the implementation of the NRHM programmes. Along with role of ASHA and mainstreaming of AYUSH the utilization aspects of health services necessitates studying other crucial factors like availability, planning and preparedness of health facilities and human resources, drugs availability, quality of MCH care and diagnostic-services, referral services, process of accreditation, effective decentralization, effective utilization of funds, etc. Simultaneous attention on programs impacting nutrition, capacity building, communitization, empowerment, etc. are equally important for effective utilization of the health services. All these interconnected aspects for promotion for utilization of healthcare system in rural areas have been brought under the purview of the present study.

Coverage of the Study

The study intends to evaluate performance of NRHM in seven states of India viz. Uttar Pradesh, Madhya Pradesh, Jharkhand, Orissa, Assam, Jammu and Kashmir and Tamil Nadu. The next level selection of 37 district stretched over the seven states comprised of 6 districts each in Uttar Pradesh (UP) and Madhya Pradesh (MP), and 5 districts each in Jharkhand, Orissa, Assam,

Jammu and Kashmir (J&K) and Tamil Nadu (TN). The sampling design for each district envisages selection of District Hospital, 2CHCs, 4 PHCs with 2 each in the selected CHCs, 8 SCs with 2 each in the selected PHCs, 8 Villages with one each under selected SCs, ASHAs in the selected villages, AYUSH, Gram Panchayat, and 200 households. The facility survey in the study has covered 37 DHs, 74 CHCs, 148 PHCs, 296 SCs, and 296 villages stretched over 37 districts over 7 states of India. The selection of 25 households for the household survey in each selected village was based on identification of five households under each of the following categories viz. households having pregnant woman, households having lactating women, households with children 1-5 years, households with at least one chronic disease patient, and households having utilized family planning services. Thus, overall 7400 households from 296 villages stretched over 37 districts in the seven selected states have been covered under the study. The identification of the households with the objective criteria was accomplished with the help of ASHAs/ANMs working in the selected villages.

ASHA had been introduced under NRHM interventions to serve as the first port of call for any health related demands of deprived sections of the population, especially women and children, who found difficulty to access health services, and possibly has become the main hub for accessing to any of the obstetric care, children's immunization, and family planning services (MoHFW, 2005). Under role and responsibilities for ASHA the study team finds that creating awareness about determinants of health viz. nutrition, basic sanitation and hygienic practices, health services; counselling women on all aspects of obstetric care, mobilize community, helping VHSCs, escort/accompany pregnant women and children requiring treatment, primary medical care for minor ailments, provide information about births, deaths and pregnancies, etc. She is supposed to help in almost all aspect of basic health care for the village community.

Facility Survey was conducted in the all public health facilities viz. DHs, CHCs, PHCs, and SCs by canvassing different structured schedules for different levels of facilities. The study also elicited information on the implementation and performance of the NRHM scheme by canvassing structured schedules with the Government Officials involved in the implementation of the NRHM at State, District and Block level. The structured schedules for facility survey were framed for eliciting information from all the health officials/facilities viz. State Health Societies and NRHM Officials, District Health Societies, District Hospitals (DHs), Sub-District Hospitals (SDHs), Community Health Centres (CHCs), Primary Health Centres (PHCs), Sub-Centres (SCs), Accredited Social Health Activists (ASHAs), Auxiliary Nurse Midwives (ANMs), Roga Kalyan Samities' (RKSs) and Gram Panchayats' Members (GPMs). In-depth interviews with state health officials and focus-group discussions (FGDs) with ASHAs/ANMs working within the domain of selected CHCs/PHCs were also conducted. Additionally structured schedule for information on AYUSH facilities, if available were also canvassed in the health facilities. Additionally FGDs with ASHAs working within the domain of each selected CHC were conducted. Thus, structured schedules for eliciting information for involvement of State, District and Sub-district health officials involved in planning, monitoring and implementing NRHM plan of action and strategic components have been canvassed at all levels alongwith.

Complete list of all the state level facilities viz. DHs, CHCs, PHCs, SCs, and Villages; covered in 37 districts stretched over 7 states of India is furnished in the Appendix table A.2.

Information from eligible respondents utilizing different components of RCH, Family Planning, and Chronic Disease services alongwith some general socioeconomic and demographic background characteristics from each of the selected 7400 households was elicited

through structured schedules. Further, complete household schedules were canvassed in all the selected households irrespective of the objective criterion with which these were identified and selected.

Chapter Scheme

Chapter Scheme of the study is devised to provide demographic profile and health infrastructure in all the seven states under the purview of present study in Chapter II. The information base for the state's profiles have been elicited from State Headquarters in each state through in-depth interviews with NRHM directors and state government officials involved in implementation of the NRHM initiatives in each state.

In Chapter III, attempt has been made to provide detailed analysis of the information elicited through facility survey conducted in all the seven states. The information base in this chapter pertaining to functioning of District Health Societies, and thereby functioning and infrastructure - comprising of physical, doctors, drugs, equipments, peripheral human resource, etc. - in District Hospitals, Community Health Centres, Primary Health Centres, and Sub-Centres. Also information base for functioning of Rogi Kalyan Samities, Village Health Societies, ASHAs and AYUSH, is elicited through canvassing structured schedules meant for these facilities.

Chapter IV provides information on household survey conducted in all the 37 districts stretched over 7 states, covered under the study. This chapter provides information on background characteristics, utilization patterns of Obstetric care viz. antenatal, delivery and postnatal care; children's immunization, family planning and chronic disease control services. Further, respondent's awareness about NRHM's interventions and major schemes at village level, ASHA, JSY, VHSC and VHND is also provided in this chapter.

Chapter V provides bivariate analysis providing information on key obstetric care, children immunization, family planning and chronic disease services utilization by background characteristics. Information base for the analysis in this chapter is the household survey in which objective criterion for selection of the households was based on eliciting information from pregnant women, lactating women, women with children 1-5 years, chronic disease patients, and users of family planning services. Thus, this chapter provide detailed information on the utilization patterns by the background characteristics of households, women and chronic patients.

Chapter VI highlights determinants of the health care seeking behaviour of the key respondents selected with the objective criterion through multivariate analysis. The techniques for the purpose was primarily binary and multinomial logit analytical tools and thereby using parametric estimates for eliciting use probabilities of public vs. private health facilities for the key components of healthcare. Chapter VII provides summary and conclusions of the study.

Chapter 2

Demographic Profile and Health Infrastructure in India and 7 States: An NRHM front

Introduction

Reproductive health and rights were deliberated at length in the International Conference on Population and Development (ICPD) in 1994 at Cairo. India being signatory to the UN's resolution at Cairo conference, along with 179 other participating countries, followed its Programme of Action and brought around a major shift in its population policy from earlier contraceptives-mix-target oriented to target-free approach in April 1996, which was streamlined as client-centered-demand driven “community needs assessment” (CNA) approach and renamed as Reproductive and Child Health (RCH) approach in October 1997. The RCH approach comprised critical components like informed choice of quality contraception, basically meant for safe and satisfying sex life, treatment of infertility, prenatal, natal and post-natal care for mother, adolescent education meant for psychologically preparing adolescents through information, education and communication for sexual and reproductive career, management and treatment of HIV/AIDS, reproductive tract infections (RTIs), sexually transmitted diseases (STDs), etc. These major paradigm shifts in India's population policies were reiterated and enshrined in the National Population Policy document released in 2000 (MoHFW, 2000).

Syndromic approach generally adopted in large scale health surveys elicits information from respondents on their demographic, socioeconomic and cultural characteristics which impact their reproductive behaviour and problems, morbidity and general health problems and also their health care seeking behaviour. The, socio-psychological context, lack of knowledge on medical and health issues, improper diagnosis, lack of clinical testing, variations in survey design and procedures have also been discerned to be responsible for highlighting the truer linkages amongst supply and demand side factors influencing crucial RCH and general health conditions over space and time. Still the merits of the community based surveys for eliciting self-reported reported health problems seems to be appealing on pragmatic grounds like low cost, high feasibility and generalizations (Bhatia, 2000).

Possibly, the national level surveys like District Level Household Surveys and the National Family Health Surveys, and Sample Registration Schemes, etc. based on uniform sampling design and data collection procedures would be free from methodological limitations discussed above. Further, such community-based surveys eliciting self-perceived reproductive health problems need not be interpreted as providing accurate estimates of the true prevalence of morbidity or mortality over different regions of the country. Nevertheless, the self-reported problems have often been viewed to be useful in assessing women's need for obstetric services. Further, extent of variations between self-perceived and measured morbidity need not be a serious obstacle in highlighting the determinants of gynaecological morbidity. A significant lacuna persists in understanding the factors influencing gynaecological morbidity as well as consequences for women's lives (Shireen, 2004). This study attempts to highlight significant socio-economic, cultural and demographic factors influencing the reproductive morbidity in India.

Hitherto, theoretical literature and empirical studies have emphasized the importance of several socioeconomic, demographic and cultural factors such as age, age at effective marriage, parity, pregnancy wastage, rural-urban residence, etc. impacting the prevalence and treatment seeking behaviour (Bang et. al. 1989; Bhatia and Cleland, 1995; Rangaiyan and Surender, 2000; Rani and Bonu, 2003; Ramesh Chellan, 2004). Apart from accessibility and affordability it is also client's perception about the quality of health care, whether in private or public sector, which motivates for utilization of the healthcare facilities (Gulati, 2004). Most of these empirical studies are based on bivariate analysis. A few of these studies, based on multivariate analytical techniques, have not been able to pick up rightly the net effects of background variables in terms of likelihood or probabilities. Both bivariate as well as multivariate analysis for highlighting the linkages would be attempted. The study team have attempted to elicit most of the secondary information from in depth interviews with senior health officials at state headquarters and sought their help in getting detailed information on NRHM initiatives and basic demographic and health infrastructure information in the form of state schedule. However, at several stages the field team handed over with the latest data sheets which were provided to the NRHM office in the Ministry. However, the field team tried to update the information with latest statistics on basic demographic and health infrastructural characteristics of the selected states for evaluation of the NRHM program interventions towards improvement in RCH care, Family Planning and Chronic Disease control services emphasized since the inception of NRHM in 2005. Additionally we have also utilized alternate source of data viz. NRHM documents, SRS reports, DLHS and NFHS reports, etc. (NRHM, 2009; SRS, 2008; IIPS, 2000, 2006, 2007, 2009). Basic data and graphs depicting demographic profiles and trends, health infrastructure, etc. are furnished in the Appendices to this chapter.

Structure of Public Health System

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

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

medical specialists - surgeon, physician, gynaecologist and paediatrician. According to data available for 2008-09 we have 145272 SCs, 22370 PHCs, and 4045 CHCs. (MoHFW, 2010)

Population Characteristics

Fertility characterised by the total fertility rate (TFR) is around 2.7 for India as a whole and ranges from almost 1.6 in Tamil Nadu to 3.9 in Uttar Pradesh amongst seven states under the purview of the present study. Similarly the Crude Birth Rate (CBR) of 22.8 for India varies from 16 in Tamil Nadu to 29.1 in Uttar Pradesh in the seven states. Secular decline in fertility levels since 2004, characterised by CBR and TFR, from Sample Registration documents since are being observed in all the seven selected states.

Mortality variations in terms Expectation of Life at Birth (E^0) is around 63.1 for India and varies from around 57 years in Madhya Pradesh to 66 Years in Tamil Nadu. Similarly infant mortality rate (IMR) for India being 53 varies from 31 in Tamil Nadu to 70 in Madhya Pradesh. The Maternal Mortality Ratio (MMR) of 254 as per SRS in 2004-06 for India ranges from 111 in Tamil Nadu to 440 in Uttar Pradesh amongst the seven states. Secular declines in overall and infant mortality rates characterised by CDR and IMR, collated from SRS reports, are observed in all the states during 2004-08 for all the states excepting Jammu and Kashmir as per appended bar diagrams. Further, the neo-natal mortality component of IMR for India in 2008 was 37 and varied from varied from 24 in Tamil Nadu to 51 in Madhya Pradesh. As far as recent trends in neo-natal mortality in all the seven states the study team finds that only in Tamil Nadu we observe the trend to be declining. Possibly, neo-natal component of mortality is predominantly influenced by extent of utilization of antenatal and delivery care and thus the likelihood of utilization of the obstetric care seems to be much higher in Tamil Nadu compared to other six states.

Status of Health Infrastructure and Facility Upgradation under NRHM

India being signatory to Alma Ata Declaration is committed to attaining Health for all through the primary health care approach. The ultimate objective of a health-care delivery system is to ensure that the rich and poor are treated alike, poverty does not become disability and wealth is not an advantage towards accessibility of health care. In order to provide accessible, affordable and accountable health care system to all, especially underprivileged and vulnerable sections of the society, the NRHM has emphasized towards improvement in health care infrastructure in demographically backward states and districts (NRHM 2005). Thus, apart from increased budget the involvement of people in the form of Village Health and Sanitation Committees, District Health Societies, Rogi Kalyan Samities, etc. the emphasis is on improvement of basic health infrastructure with adequate supply of human resource, material, drugs, equipments, transport system, etc. The Facility Survey purports to evaluate the public health facilities in the selected states and districts. The facility survey has covered District Health Societies, District Hospitals, Community Health Centres, Primary Health Centres, and Sub-Centres

In the hierarchical health care system of the Government of India, the district hospital (DH) is the apex body, which provides specialised health care to the people of a district on subsidized cost. Every district is expected to have at least one district hospital but some case the Medical College Hospital or any other sub-divisional hospital also serve as DH, where such institution is not established. As per norms District Hospitals and FRUs/ CHCs are ought to have critical inputs like adequately equipped operational theatres and laboratories, separate aseptic

labor room, electricity in all parts of the hospital, availability of generator, overhead tank and pump facility, etc.; specialists like Gynaecologist, Surgeon, Orthopaedician, Obstetrician, Paediatrician, anaesthesiologists, laboratory technicians, etc. and ready availability of all critical drugs/medicines, equipments, etc. Most of the DHs/FRUs are supposed to have direct linkage with the blood bank or blood storage facility. Since FRUs treat emergency cases they should be well equipped with adequate human resource, materials, drugs and kits. Though not designated as such, CHCs are also the first referral units where referral cases are sent from lower level health care facilities. FRUs and CHCs take up referral cases from the lower health care establishments besides providing usual health care activities for the area of their operation.

The Primary Health Centres (PHCs) provide curative, preventive, and promotive health and family welfare services in rural area for a population of about 30,000. For the effective delivery services a PHC should have essential infrastructure, staff, equipments and supplies (MoHFW, 2007). Thus, a PHC should also have critical infrastructure like continuous water supply, electricity, labour room, laboratory, telephone, functional vehicle, etc. PHC ought to have at least one medical officer, one laboratory technician and health assistants both males and females. Critical equipments at PHC level ought to have like functioning deep freezer, vaccine carrier, BP instrument, autoclave, etc. Supply of contraceptives, normal delivery kit/labour room kit, essential obstetric kit, all vaccines, IFA tablets and ORS packets. Primary health Centres have the major responsibility of providing both preventive and curative health care services in the area. Primary Health Centres have limited facilities and expertises hence they cannot provide complete obstetric care to women. Some of the upgraded PHCs and Community Health Centres have been categorised as First Referral Units and these facilities have been provided with specialized equipments and kits to provide maternal health care, particularly obstetric care (EmOC). Emergency cases can be referred from the Sub-Centres and Primary Health Centres to these FRUs.

Physical Health-Infrastructure in terms of district and sub-district hospitals (DHs and SDHs), Community Health Centre, Block and Additional primary health centres and PHCs, Sub centres (SCs) is existing in all the 642 districts of India. We have 578 District-hospitals, which are supposed to have all health care facilities like specialists, doctors, nurses, operation theatres, diagnostic services, drugs, etc. Nevertheless, only 517 out of 578 hospitals are functioning as first referral units (FRUs) and only 438 DHs have been taken up for upgradation under NRHM.

Facility Survey for Upgradation to Indian Public Health Standards (IPHS) recommended under NRHM has been conducted in all the district hospitals in all the seven states under the purview of the present study. Nevertheless, the upgradation work till August 2009 had been initiated in most of the district hospitals in the States of Tamil Nadu (27/27), Jammu and Kashmir (14/14), Orissa (32/32) and Madhya Pradesh 50/50). In other three states the upgradation work had not picked up much till August 2009 like in Uttar Pradesh the work got started only in 70 percent of hospitals (50/71), in Jharkhand in around 42 percent of hospitals (10/24), and 41 percent of hospitals in Assam (9/22).

Facility-Upgradation Work at Community Health Centre (CHC) level has almost been completed in five states viz. Jharkhand, Orissa, Assam, Jammu and Kashmir and Tamil Nadu. In Uttar Pradesh (169/515) and Madhya Pradesh (96/270) even the facility survey for upgradation had not been completed till August 2009. Further, selection of CHCs for upgradation out of the surveyed CHCs was limited in Uttar Pradesh (100/169). Completion of upgradation work at CHC level seems to be good in Tamil Nadu (131/131) and Assam (84/103). In other states the

civil work was being carried on and possibility of upgradation work being taken up on priority basis in the near future was reported by all state headquarters.

Upgradation to IPHS level of DHs and CHCs as FRUs seems to have marked improvement in Uttar Pradesh, Madhya Pradesh, Jharkhand, Orissa and Jammu Kashmir. One can find that availability of DHs as FRUs was almost nil in four states viz. Madhya Pradesh, Jharkhand, Orissa and J&K and now almost all these states have more than 50 percent of existing DHs functioning as FRUs. However, in Tamil Nadu all the 27 DHs were functioning as FRUs since NRHM got initiated in 2005. In Assam only 2 out of 22 DHs were not functioning as FRUs before and have been upgraded to the category of FRU after start of NRHM.

PHC Functioning on 24x7 basis seems to be proportionately quite low in almost all the seven states. Nevertheless, upgradation of PHCs into 24x7 facilities seems to have improved greatly in almost all the seven states since the start of NRHM. The upgradation of PHCs into 24x7 basis health facility need to be taken up on priority basis to enhance the outreach of public health care services in the rural areas.

Public Private Partnership agenda under decentralization under NRHM in terms of constitution of **Rogi Kalyan Samities** at District Hospitals, Community Health Centres, and Block and Additional PHCs was also a priority agenda under NRHM. Interestingly, the registered Rogi Kalyan Samities have been reported to be functioning in almost all the DHs and CHCs in all the seven states. Interestingly the formation and constitution of registered RKSs has been reported to be working in majority of the PHCs too viz. UP (3192/3690), MP (887/1142), Jharkhand (235/330), Orissa (218/1279), Assam (857/844), J&K (375/375) and Tamil Nadu (1399/1215). Only in Orissa the study team finds that constitution of RKSs at PHC level needs to be picked up.

Village Health and Sanitation Committees (VHSCs) have been constituted and functioning in most of the villages in India. However, in Uttar Pradesh and Madhya Pradesh the study team find that in around 50 percent of the villages the committees are functioning whereas in other five states the constitution of VHSCs have almost been completed in all the villages.

Village Health and Nutrition Days (VHNDs) are being organized by all the VHSCs. All India average of monthly VHND turns out to be around 11 per year per VHSC or per village. However, in Tamil Nadu the study team find the average number of VHNDs per VHSC or even per village per year turns out to be quite high say around 30.

Human Resource shortage in public health institutions seem to quite acute. The study team finds shortfalls of even Specialists/post-graduate doctors, Gynaecologists, Staff Nurses and Anaesthetists in almost all the seven states. However, Staff Nurses in position before the start of NRHM in 2005 was good only in Tamil Nadu. However, contractual appointments of specialists in CHCs seem to have partially strengthened the human resource in all the states but still have not been able to fill the gap between requirement and in-position specialists. Nevertheless, the contractual appointments of staff nurses at CHC and PHC level have more or less fulfilled the gap between required and in-position staff nurses in all the seven states.

ANM positioning in SCs in all the states seems to be satisfactory. For India almost 94 percent of the SCs have ANM in position and around 6 percent of SCs are functioning without an ANM. In Orissa, Jharkhand and Assam all the SCs are having an ANM. In UP and MP still around 10 percent of SCs are functioning without an ANM like (1929/20521) in UP and

(574/8834) in MP. However, target of provision of 2nd ANM under NRHM to all the SCs seems to be lagging behind in most of the states. Only in Jharkhand all the 3958 SCs have second ANM in position. In Assam around 55 percent of the SCs (2540/4592) have 2nd ANM in position. In all the other five states proportionate SCs with 2nd ANM are less than 5 percent.

ASHAs recruited, trained and in position were more than the number of villages reported in India in August 2009. Around 7.7 lakhs ASHAs were in position for around 6.8 lakhs villages in August 2009. Possibly, recruitment of ASHAs as well as their training seems to have gone satisfactorily in all the seven states of India. It may be of interest to mention that in Tamil Nadu it was reported that in all the 16 thousand villages still recruitment of ASHAs was not undertaken but all the villages in Tamil Nadu were functioning with grass root healthcare provider, especially obstetric care, known as village health nurse (VHN). Possibly, conversion of VHNs into ASHAs, of course with proper recruitment criteria, could be an alternate solution to recruit the grass-root health activist called ASHA.

Referral and Emergency Transport system seems to be working quite efficiently in some of the states like Madhya Pradesh, Jharkhand, Assam and Tamil Nadu. In most of the districts under Uttar Pradesh, Orissa and J&K the Mobile Medical Units are not working and also inefficient emergency transport system is hampering the outreach of health care services. In Madhya Pradesh the referral transport services viz. Janani Express Vehicles; are functional in all the FRUs.

Utilization of Public Health Services

Institutional deliveries in almost all the seven states depict quantum jump from 2005-06 to 2008-09. It may also be highlighted that proportionate women have institutional deliveries covered under JSY beneficiary scheme has also gone up substantially. Rather in Jharkhand and Orissa JSY beneficiaries are more than the institutional deliveries as being high focus states the home deliveries also get covered under the JSY benefit scheme.

Children Immunization scheme seems to have been working fine and possibly majority of the new born children have been immunized in all the states of India. It may be of interest to mention that number of cases in which action has been undertaken under PNMT act seems to be nominal. Even for India as whole only in 342 cases the action has been undertaken under PNMT act. Possibly effective monitoring of cases under the PNMT act needs to be prioritized.

AYUSH Program got picked up only after 2007-08 as earlier the budget allocation from the MoHFW was almost insignificant in most of the seven states. It varied from almost 1.3 Crores in J&K to 36.3 Crores in Orissa (NHSRC, 2009). However, the budgetary provision for mainstreaming AYUSH got picked up to Rs. 87 Crores in J&K to 1460 Crores in UP in 2007-08. Co-location of AYUSH and Allopathic systems of medicines seems to be functioning well from DH to PHC level in Tamil Nadu only. In Jharkhand all the 24 DHs have both systems of medicines. At CHC level the two systems are co-located in Orissa only in addition to Tamil Nadu. Further at PHC level the two to be functioning only in J&K. So basically the two systems of medicines seem to be working at DHs only in Tamil Nadu and in peripheral institutions like CHCs and PHCs in Orissa and J&K. In Uttar Pradesh, Madhya Pradesh and Assam the two are not co-located in from DH to PHC level. On the other hand AYUSH hospitals and Registered Medical Practitioners are quite substantial in Uttar Pradesh. Even the number of AYUSH colleges is mostly located in UP and MP. Possibly accreditation of Private AYUSH health institutions could

be an alternative to effectively mainstream AYUSH system of medicines in most of the states in India.

The National Disease Control Programme (NDCP), though still under separate budget head than NRHM, seems to be working well in all the districts in the sense that both the incidence as well as deaths reported under different diseases depict declining trend. Under Malaria around 19.3 lakhs cases were reported in 2008 with only 935 deaths due to Malaria. Under Kala-Azar around 33 thousand cases being reported with only 146 deaths out of which 137 have occurred in Bihar and only 5 in Jharkhand. Thus Kala-Azar deaths are predominantly concentrated in Bihar and Jharkhand. Dengue cases were reported to be around 12.5 thousand with only 80 deaths at all India level. The geographical concentrations of casualties under different diseases clearly emerges like deaths due to Malaria in North Eastern states are concentrated more in Orissa and that of Kala-Azar are predominantly in Bihar. Similarly, casualties under Japanese Encephalitis are concentrated more in UP, due to Dengue in Rajasthan. Thus, major disease control programmes for Malaria, Kala-Azar, Dengue and Japanese Encephalitis have to be region specific where the incidence as well as casualties are higher.

Status of Health Infrastructure and Services in States

UTTAR PRADESH (UP)

Physical Infrastructure in Uttar Pradesh comprises 71 DHs, 515 CHCs, 3690 PHCs, and 20521 SCs. Since inception of NRHM only 582 CHCs, 700 PHCs, and 5823 SCs have been added to rural health services of UP. Thus even out of 71 DHs only 56 are functioning as FRUs. IPHS facility survey in CHCs recommended upgradation of 100 CHCs out of which work has already been going on 100 CHCs. However under NRHM only 12 CHCs were functioning on 24x7 basis at the beginning of NRHM which have increased to now 262. The infrastructure is substantially short of IPHS norms. Infrastructure strengthening under NRHM additionalities still needs priority attention. An increase in 24x7 PHCs from 312 in March 2008 to 648 on the date of survey depicts significant improvement in infrastructure and human resource and surge in 24x7 CHCs from 23 to 62 during the same period. An upsurge in FRUs from 42 in March 2005 to 121 as on 31st March 2008 also reflects improvement in outreach of health facilities in UP.

Health Human Resource Shortfalls viz. Specialists, Gynaecologists, Staff Nurses and Anaesthetists; is seriously affecting the outreach of health services in the state at most of the health facilities in the state. Contractual recruitments under NRHM additionalities has definitely brought lot of improvements in terms higher number of specialists, doctors and staff nurses but still the shortages under each category of medical and paramedics in CHCs, PHCs and SCs hampers preparedness to deliver quality care. Against total requirement of 2060 specialists in CHCs as per norms only 1460 are sanctioned and only 618 are in position. However, 189 specialists have been added on contractual basis under NRHM. Similarly 2250 staff nurses have been added at CHCs to only 615 in position at the start of NRHM at this level.

Case Load characterised by OPDs attendance, bed occupancy and institutional deliveries have increased tremendously in the State. An upsurge in institutional deliveries from 19.5 lakhs in 2005-06 to 23.25 lakhs in 2007-08 depicts increasing trend since 2005-06. However, a huge upsurge in proportionate JSY beneficiaries from 0.12 lakhs in 2005-06 to 15.64 lakhs in 2008-09 depicts progressive increase in proportionate beneficiaries under JSY out of women opting for institutional deliveries during 2005-09. Relatively much higher case load at DH and SDHs is possibly because of higher and higher referral cases from lower category of health facilities like

CHCs, PHCs and Sub Centres, which could be because of lack of human resources and infrastructural facilities at lower levels of health institutions.

NDCP was still functioning separately and the need for integration was felt and special programs for control of relatively more prevalent diseases like Malaria, Tuberculosis and Leprosy and other minor diseases like Filariasis, Dengue, Kala-azar, Polio, Blindness, and Iodine Deficiency Disorders are also getting contemplated. Nevertheless, reported cases during 2008-09 were Malaria 98522, Leprosy 16206, and Tuberculosis 64104. Incidence of other diseases during the year was Encephalitis 3012, Dengue 51, and Kala-Azar 25. However deaths reported for Malaria, Kala-Azar and Dengue were nil. However special programs for NCDP have been initiated under NRHM.

Hospital Maintenance or initiatives under Public Private Partnership (PPP) are still lacking in the state. Even peripheral services like cleaning, washing, catering, etc. have only been viewed to be outsourced to improve the services compared with appointment of regular staff for such services.

Referral and Emergency Transport system in the state needs to be strengthened. Shortage of Ambulances and Mobile Health Units in UP are hampering the outreach of health care services.

Quality of Services is being seriously affected by shortage of staff nurses at all levels of facilities. Women delivering new born babies also don't stay for minimum 48 hours after delivery because of lacking basic facilities like cleanliness, electricity, potable water, etc. Bio waste management is also very poor in most of the health facilities. In most of the DHs and CHCs these services are outsourced because of which collection and segregation processes are observed. In other lower facilities like PHCs and SCs even pits are not being properly constructed and maintained.

ASHAs in position are 134434 in around 107452 villages in the State. Most of the ASHAs have received training; however their regular mentoring needs to be strengthened. They are highly visible, motivated and effective in community. They have substantially increased the awareness of service availability at community level. Payments of incentives are delayed. ASHA require regular refresher training and also need a career path particularly for well performing ASHAs. Coordination between different health functionaries like ASHAs/AWWs/ANMs, needs to be streamlined. General demands of the ASHAs in the State are some provision of basic salary like ANM, waiting room and stay arrangements for ASHAs at CHCs and DHs for ASHAs accompanying pregnant women, incentive money need to be increased, regular replenishment of ASHAs' kits, proper treatment from regular medical and paramedical staff in the health system, etc.

AYUSH Program in the State was utilizing a meager budget of 11.33 crore in 2007-08 from the department of AYUSH in MoHFW. However, no separate budget under AYUSH has been proposed for mainstreaming AYUSH at DHs/CHC/PHC level since 2007-08. Nevertheless, 428 AYUSH Doctors under NRHM additionalities was reported to be deployed at the end of 2008. In 2009-10 the State had proposed contractual appointment and deployment of 300 AYUSH practitioners at PHCs. Though there are 35 AYUSH colleges and 1988 Hospitals in the State and possibly focused attention on training and deployment of Doctors and Paramedics in DHs, CHCs and PHCs can facilitate mainstreaming of AYUSH in the State.

Decentralized Planning and Communitisation process under NRHM seems to be lacking in the state. However, total number of Village Health and Sanitation Committees (VHSCs) constituted under decentralization components are only 0.5 lakhs with operational joint accounts in all the VHSCs. Village Health and Sanitation Committees have been set up though getting the cooperation of PRIs is proving difficult in many areas.

NRHM Funds Utilization has improved over the period at all level. Sub Centres and PHCs have started using untied grants under decentralization under NRHM. However, registered Rogi Kalyan Samities under decentralization scheme under NRHM have been constituted in all the 71 DHs, all the 515 CHCs, and in around 325 PHCs out of 3690 PHCs.

Capacity Building or Skill Training for comprehensive Human Resource Plan necessitates strengthening of the existing training infrastructure like medical colleges, nursing training institutes, etc. Rationalization of posting and transfer policies for medical and health management personnel is needed to provide credibility and sustainability of the health care system in the State. However, continuing concerns of ASHAs for some basic salary like ANMs, permanency in jobs, and higher incentives for performance based tasks under MCH care, NDCP, immunizations etc. have been expressed not only in UP but also in many other regions/states.

MADHYA PRADESH (MP)

Health Infrastructure in the State comprises of 50 DHs in 50 districts, 270 CHCs in around 585 *talukas*/blocks, 1149 PHCs. All the 50 hospitals are operational as FRUs, whereas only 21 SDHs and 16 CHCs are functioning as FRUs. IPHS facility survey has recommended upgradation of 96 CHCs and the physical upgradation work has started only in 27 CHCs. Infrastructure strengthening under NRHM additionalities needs priority attention. For civil constructions and upgradation we still don't have any Infrastructure Development wing in the state. Upgradation of the health facilities under NRHM needs focussed attention. Apart from 50 DHs we have only 37 FRUs in the state and all the additional FRUs have been upgraded under NRHM. As per NRHM goals we need to upgrade all the CHCs (270) in the State. So that still lot of gap exists between desired goal and achievement under NRHM. However, 96 CHCs have been selected for upgradation to IPHS norms by the IPHS facility survey and work has been initiated only in 27 CHCs. Blood Banks and storage-units need priority attention to strengthen FRUs in the state.

Human Resource Shortage seems to be still serious in the state. Contractual human resource under NRHM additionalities has certainly helped in improving the preparedness for health care in MP. Against 1080 required specialists we have only 220 in position. There are still 262 PHCs functioning without a doctor. However, additionalities under NRHM have facilitated recruitment of around 59 specialists for CHCs and 161 Medical Officers at various facilities. Still serious shortage of Specialists at DHs, Doctors and Paramedics at CHCs and PHCs. Addition of Specialists, Medical Doctors, Staff Nurses, Clinical lab technicians especially anaesthetists, etc. need priority attention for strengthening of FRUs and other health facilities in MP. Innovative measure like rural posting of one year for graduate and PG doctors from government medical colleges to PHCs is being attempted.

Case Load in the State has improved significantly in the State has characterised by increasing trend in the annual number of patients treated, increase in institutional deliveries and increase in diagnostics/ pathology services. The case load has increased tremendously and the State has proposed to increase bed strength by 6000 in 2008-09. An upsurge in institutional

deliveries from 5.99 lakhs in 2005-06 to 13.70 lakhs in 2008-08 signifies the significant improvement in the obstetric care. Proportionate beneficiaries under JSY has increased tremendously as there were only one lakhs beneficiaries in 2005-06 and has gone up to 11.4 lakhs in 2008-09. District hospitals are overstretched. Nevertheless, drugs procurement, supply and availability at Block PHC and District Hospitals have been reported to be improved leading to higher case load in the State.

NDCP are yet to be integrated with the NRHM initiatives for disease control in the State. In year 2008-09, Malaria cases (104317), Leprosy (6309) and Filariasis (2941) are reported in the State. A marginal decline in Leprosy cases is reported during 2004-08. Deaths due to Malaria, Kala-Azar, and Dengue were reported to be nil.

Referral Transport Services like Janani Express Vehicles in all the FRUs has helped in higher preparedness for healthcare outreach. Mobile Health Units seems to be doing well in MP.

Quality Assurance is receiving attention in the State health facilities. NABH accreditation in 5 DHs is under process to certify the quality standards. ISO certification also initiated in one DH, one Civil Hospital, 2 SNCU and 5 Regional diagnostic centres Quality of ANC and PNC services, infection control and cleanliness needs to be strengthened. Serious shortage of staff nurses is hampering the delivery of health services in most the public health facilities.

Lack of quality of health services is generally referred to sudden increase in patient load, especially under JSY scheme, strengthening of infrastructure and recruitment of contractual human resource needs priority attention as it is affecting adversely the quality of service. Diagnostic Services Lab services are reported to have improved and available in almost all the health facilities.

ASHAs in position in the State are 42777 in around 55393 villages in the State. Majority of them have been trained and are reported to be equipped with kits. Nevertheless, the selection process has not always been following the guidelines. Mentoring of the ASHAs is lacking because of the lack of field visits by ASHA mentoring group as funds for the purpose are not released in time. ASHAs are effective and knowledgeable and generally accompany the JSY cases. Coordination with ANMs and AWWs seems to be working alright and some of the ASHAs are reported to be making even blood smear slides in fever cases.

AYUSH Doctors and Paramedics are not in position in any of the DHs, CHCs and PHCs in the State. Though there are around 40 AYUSH colleges and 57 hospitals functioning with around 60,000 registered medical practitioners in the State but no provision for training of AYUSH Doctors has been made in PIPs for deployment in the rural public health institutions. Earlier 7.37 crore budget under MoHFW was getting utilized and around 28 Doctors in PHCs during 2008-09 were reported to be functioning and proposal was extended to make contractual appointments in another 242 CHCs and in 984 PHCs out of 1152 PHCs in 2008-09 PIP. Budgetary provision of 58 crore in 2008-09 PIP and 48 crore in 2009-10 has been made but still no deployment of AYUSH Doctors and Paramedics in any of the DHs, CHCs, and PHCs are found to be reported in official documents. Some innovations like AYUSH mobile medical units, health melas, *Panchkarma* therapy, Ayurveda Gram Yojna, etc. were suggested and around 58 crore budget in 2008-09 PIP and around 48 crore budget provision in 2009-10 PIP has also been suggested. However, timeliness of the planned activities needs to be monitored effectively to mainstream AYUSH in the State.

Decentralized Planning Process Under NRHM in the State is getting routed as Registered Rogi Kalyan Samities are functioning in 48 DHs, 268 CHCs, and 887 PHCs. Around 21 thousand VHSCs have been constituted in around 55 thousand villages and operational joint accounts in all the constituted VHSCs have been reported. Around 43 thousand ASHAs were reported to be in position out of 55 thousand villages in MP. Thus, recruitment of most ASHAs, which is grass root health functionary at the village level, needs priority attention.

JHARKHAND

Physical Infrastructure in the State comprises of 24 DHs, 194 CHCs, 330 PHCs, and 3958 SCs. However, 194 CHCs and have been upgraded to 24x7 basis since inception of NRHM. However, IPHS facility survey had been conducted in 188 CHCs and upgradation to norms have started. However, infrastructure strengthening under NRHM additionalities needs priority attention. Residential quarters in health facilities even for emergency staff are a serious snag, though civil works have been picked up under NRHM and should be expedited.

Human Resources Shortage despite contractual appointments under NRHM additionalities of medical and para medical staff is still serious. There is serious shortage of specialists, doctors, and staff nurses in Jharkhand. Against 776 required specialists we have only 40 in position and similarly against 1688 required staff nurses in CHCs 429 have been recruited on contractual basis under NRHM additionalities. Similarly around 1710 general medical doctors have been recruited on contractual basis under NRHM. So NRHM has certainly strengthened the medical and para medical human resource but still the human resource is not commensurate with the required strength for extending the requisite quality health care.

Case Load in the State has up surged significantly such the number of institutional deliveries from around 0.52 lakhs in 2005-06 to 1.94 lakhs in 2008-09. Thus increase in case load depicts that ASHAs/Sahiyas are quite active in the state in motivating mothers for institutional deliveries. Also number of JSY beneficiaries is about 4.78 lakhs in 2008-09 compared with 1.94 lakhs deliveries depicting that even home deliveries of BPL category people in High Focus states like Jharkhand are getting benefited from NRHM. Number of private institutions accredited under JSY is 139 in Jharkhand and is supporting the increase in the institutional deliveries. The IPD/OPD patient load has also been observed to depict an upsurge basically because of more of functional facilities in increased number of FRUs and 24x7 basis PHCs.

Children Fully Immunised have improved significantly during 2004-08, excepting a decline from 4.1 lakhs in 2007-08 to 3.1 lakhs in 2008-09. All the 3958 sub centres have been reported to be with 2 ANMs in place with basic kit having BP equipment, stethoscope, etc. Number of children fully immunized during 2008-09 is reported to be 3.07 lakhs, which have gone down from 4.01 lakhs in 2007-08.

NDCP in the State has picked up and Malaria cases have dropped from 20223 in 2004 to 15845 in 2008. Deaths reported due to Malaria has been going up from 4 in 2006 to 25 in 2008 and are reported to be nil during 2009. Other major diseases reported were Kala-Azar (3690 cases in 2008) and Leprosy (6309 cases in 2008) with no death in 2008. Thus national diseases control program seems to have been working satisfactorily since inception of NRHM.

Quality of the health services are reported to have improved after introduction of NRHM. However, patient handling by doctors needs improvement viz. crowd management,

wards, labour rooms, quality of food for patients. Contractual doctors under NRHM had facilitated improvements in OPD services. Most of the PHCs are functioning as 4/6 bedded hospitals. Civil works need to be expedited to improve health facilities. DPMUs need to be strengthened for proper management of health programmes at district levels. Upgradation of CHCs as FRUs needs to be picked up in the State.

ASHAs/ Sahiyyas in position are 39556 in around 32615 villages in the State. The Sahiyyas of Jharkhand have been selected by NGOs, through Village Health Committees. Most the ASHAs have undergone three modules of training and are equipped with proper medical kits. Interestingly, the modules had been developed in the local contexts. Payments of incentives are generally delayed and needs streamlining.

AYUSH Services are reported to be available in all the 24 DHs in the State. Though process of recruitment of 300 AYUSH Doctors was reported to be initiated in 2009-10, but still the salary component was not clearly mentioned in the PIP and seems that the suggested initiative has not been implemented yet. The provision of around 10 crore budget under additionalities of NRHM in 2008-09 has also been reduced to around 1.44 crore in 2009-10 clearly depicts that budget was not utilized and the suggested provision has also been reduced drastically despite additional activities like strengthening AYUSH Directorate, proposal for Herbal Garden in every CHC and DHs along with AYUSH dispensary, strengthening advocacy for AYUSH, etc. has also been suggested in 2009-10 PIP. We need to strengthen the AYUSH mainstreaming objective in the State.

Under Communitization Process under NRHM only 30011 registered VHSCs had been reported on the survey date with around 10,000 operational joint accounts. Around 429 registered RKSs in all the health facilities in Jharkhand. Also, the study team finds around 38764 trained ASHAs/Sahiyyas functioning in 32615 villages in Jharkhand. Interestingly most of the ASHAs have been trained up to third module and most of them have drug kits with them. Financial management like flow of untied funds definitely needs to be strengthened. However, VHNDs seems to have improved over the recent past.

ORISSA

Infrastructure in the State comprises 32 DHs, 231 CHCs, 1279 PHCs and 6688 SCs. About 282 health facilities are functioning on 24x7 bases. Out of 282 health facilities up to CHC levels only 48 health facilities viz. 25 DHs, 10 SDHs and 13 CHCs; are functioning as FRU units. . We need to strengthen the FRUs health facilities on priority basis. The health infrastructure in the State is getting upgraded. Some initiative in building renovation, adding facilities and procurement of drugs and supply to make up the critical gaps has been initiated but still there is urgent need for infrastructure upgradation.

Human Resource shortage in the State is still significant. There is serious shortage of human resource, especially doctors and staff nurses and paramedical staff at all levels. Still 46 PHCs are functioning without a doctor. Contractual appointments under NRHM additionalities comprises of 372 staff nurses, 9 GDMOs, and 29 paramedics. Contractual recruitment of 1404 AYUSH doctors under NRHM additionalities is basically filling the serious gap of doctors at PHCs.

Case Load in the State has increased significantly as depicted an upsurge in the number of Institutional Deliveries from 2.55 lakhs in 2005-06 to 4.40 lakhs in 2008-09. However, there

is substantial decline from 4.4 lakhs in 2008-09 to 2.28 lakhs in 2008-09. However, JSY beneficiaries have always been higher than the institutional deliveries because of the BPL beneficiaries for home deliveries also in high focus states. Number of Private Institutions accredited under JSY is only 17 in Orissa. JSY and improved referral transport in the State have contributed to a large extent in increasing the case load. Most of the DHs and SDHs are having functional laboratories but still needs to be strengthened as routine tests are not commensurate with the facilities in these health institutions. However, greater patient load has been noted in DHs, SDHs and CHCs as compared to PHCs and SCs. This could be higher referred cases from low level primary health facilities to higher/secondary level health facilities. So PHCs and SCs need to be strengthened further.

Children Fully Immunized have gone down substantially from 7.7 lakhs in 2007-08 to around 2.6 lakhs in 2008-09. However, case load in terms of inpatients, outpatients and institutional deliveries seems to have gone up in the initial three to four years of NRHM.

NDCP in the State needs to be strengthened. Malarial cases reported were 359619 in 2008, without adequate number of District Malaria Officers has resulted into 218 malarial deaths in the year. Absence of contractual male MPWs makes its still more difficult to control diseases. Time take for reporting cases by laboratory is three weeks to one month. Even bed nets are reported to be in short supply in the State. GKS needs to be involved in the vector control activities actively. Even Leprosy cases reported in 2008 turned out to be 6381.

Quality of Health Services in the State has been reported to be improved because of supplementation of funds for the services like cleanliness, waste collection, electrification, water supply but is still inadequate. While there were extra cleaners appointed from untied funds and maintenance grants, there is still scope for improvement in the cleanliness of toilets and availability of water supply in some hospitals. Drugs supply, though irregular, has been reported to be improved after introduction of NRHM. Training institutes for nurses need to be strengthened to supplement the shortfall of staff nurses and lab technicians. However, suggestions have often been extended for utilization of TBAs for improving services in underserved and marginalized groups, especially in difficult areas. Overall strengthening and increasing in number of 24x7 PHCs, DHs and CHCs as FRUs can facilitate improvement in the outreach and quality of health services in the State.

ASHAs in position are 34,252 in around 52349 villages. Most the ASHAs have been trained, rather 48% have completed up to fourth module. ASHAs provided with drug kits ASHAs were found to be rooted in the community, highly motivated, and the competencies and skills were good. Good teams work with women SHGs and AWWs. Posters providing details of ASHAs payments displayed in all facilities. Role of ASHAs in nutrition supplementation and women's empowerment has been emphasized through commissioning of ASHA *Griha* or Help Desk cum Rest House in district headquarter hospitals and medical colleges in the State and which are reported to be generally managed by ASHAs on rotation.

AYUSH Services are being provided in most of the CHCs (231/231) and PHCs (1162/1279), but not in any of the 32 DHs. Also there are 14 AYUSH colleges, 14 AYUSH hospitals, and around 7571 practicing RMPs in the State. Contractual appointment of 1162 AYUSH Doctors and 314 paramedics seems to have supplemented the AYUSH services in most the rural health institutions. However, all the main strategies proposed in NRHM PIPs of the State under proposed contractual recruitment, training, drug provisions, integration with

ASHA/ANMs have been proposed during 2008-09 and 2009-10 but the financial provisions for the activities don't reflect much support in the PIPs of the State.

Communitization Process Under NRHM in the State seems to have picked up. Under decentralization component of NRHM around 34252 ASHAs are in position in around 51349 villages in Orissa. Most of the ASHAs have received trainings and are equipped with kits. Number of VHSCs in Orissa are 37078 with joint accounts of around 23302. Number of registered Rogi Kalyan Samities in Orissa is 481 with 32 in DHs, 231 in CHCs, 101 in Block PHCs and 117 in PHCs.

ASSAM

Infrastructural Facilities in Assam comprise of 22 DHs, 103 CHCs, 844 PHCs and 4592 SCs. There are 103 health facilities functioning on 24x7 basis and only 60 are functioning as FRUs. The 60 FRUs comprise 22 DHs, 2 SDHs, and 36 CHCs. There upgradation of CHCs to FRUs needs priority attention. Shortage of blood banks and ill functioning blood storage units is a serious snag towards full utilization of health facilities like FRUs especially for emergency and surgical services. However, facility surveys have already been conducted and civil works for upgradation upto IPHS norms has increased tremendously.

Human Resources in Assam seem to be a serious snag. Out of requirement of 412 only 365 are in position and out of with 117 have been appointed on contractual basis under NRHM additionalities. Similarly around 178 Medical Doctors have been appointed on contractual basis under NRHM but still 61 PHCs are without doctors. Similarly 2112 staff nurses have been recruited under NRHM and still there is serious shortage of staff nurses. However, an innovative idea of introducing rural health practitioners (RHPs) by imparting 3 years training to 10+2 pass outs is expected to improve rural health services. While human resource has increased, there is a still a long way to go in fully preparing facilities for all kinds of morbidities.

Case Load has improved significantly in the State. Number of institutional deliveries has up surged from around 1.49 lakhs in 2005-06 to around 3.57 lakhs in 2008-09. Improvement in the outreach of healthcare gets depicted by increase in the number of children fully immunized to over 5.5 lakhs in 2008-09. Introduction of Rural Health Practitioners under NRHM has been as innovative idea and is going to make a huge difference in delivery of health services at PHC levels in Assam. Improvement in deployment of Human Resources has facilitated start of evening OPDs in Assam and is going to bring effective utilization of existing physical health infrastructure in Assam.

NDCP in the State needs to be strengthened as malarial cases are reported to have gone up from 58134 in 2004 to 83939 in 2008, TB cases from 26422 to 38454, and Blindness cases from 22920 to 56641. Only Leprosy cases, which again are quite high compared to other states, have gone down marginally from 1293 to 1137 during the period. However, the malarial deaths have gone down from 304 in 2006 to 86 in 2008. Another killing disease in the State is Japanese Encephalitis Deaths because of suspected reported deaths were 133 in 2007 and 99 in 2008. Similarly deaths due to Kala-Azar were also reported to be around 98 in 2007 and seem to have been controlled.

Quality and Outreach of the Health Services in the State has improved on several accounts. Introduction of Rural Health Practitioners (RHPs) with 3 years training of higher secondary students has facilitated improvement in the quality of health services in the rural areas. Substantial improvement in patient friendly physical infrastructure/ health facilities and

mobilization of human resources has been reported to bring up the quality of health services in the rural areas. Most of the health facilities were found to be clean with sufficient lighting and clean toilets. Segregation of waste with deep burial and construction of pits has been initiated in most of the DHs and CHCs and some lower level health facilities.

ASHAs in position are 26,225 in 26312 villages in the State. All are reported to have completed Module IV training. ASHAs are the visible face of NRHM and JSY work of ASHAs is quite popular among the rural women in the State. Most of them have reported yearly earnings of less than Rs. 10,000. Medicine kits provided but no arrangement for replenishment. A weekly radio programme on ASHAs seems to be quite popular in the State. General demands of ASHAs in the State are higher incentive as well as referral transport money for accompanying pregnant women.

AYUSH Services have not been provided in any of the DHs, CHCs and PHCs. Earlier budgetary provision of 1.54 crore in 2007-08 under AYUSH department of MoHFW have been enhanced to almost 88 crore in 2007-08, 86 crore in 2008-09 and further surged to 144 crore in 2009-10. Several initiatives like provision of Setting of 24 AYUSH wings (14 for Ayurveda and 10 for Homeopathy), training and recruitment of corresponding number of specialists in both systems of the medicines, provision of 4 mobile vans, conducting of health melas in the state are proposed to strengthen the AYUSH system in the State in 2009-10 PIP. The AYUSH mainstreaming objective in the State seems to be under focus in the State.

Decentralization Process in the State is working well as the number of ASHAs in position is 26255 in around 26312 villages in Assam. All the ASHAs have been trained and are equipped with kits. Total number of VHSCs in Assam is 26816 with around 24085 with operational joint accounts. Number of registered Rogi Kalyan Samities is 987 with 22 in DHs, 108 in CHCs, 13 in Block PHCs and 844 in PHCs. Utilization of untied funds seems to have been improving over the recent past depicting that activities under NRHM have been getting strengthened.

Family Planning services need more attention. Procurement and supply of drugs needs to be strengthened for regular supply and sufficient stocks. VHNDs in Assam have gone up from 1.6 lakhs in 2007-08 to 2.2 lakhs in 2008-09 in Assam but still needs to be strengthened as per village VHND comes out to be much below the average for India.

JAMMU & KASHMIR (J&K)

Physical Infrastructure in J&K comprises of 14 DHs, 85 CHCs, 375 PHCs, and 1907 SCs. 53 health facilities comprising of 14 DHs, 39 CHCs and SDHs are functioning as FRUs. The state also has 11 trauma centres and 8 ANM training centres. Facility survey recommended upgradation in 70 CHCs and work started in around 69 out of which 18 have completed the upgradation. Physical Infrastructure in terms of buildings, OTs, Labour rooms, new born care centres, etc., overall development seems to be satisfactory. However, scarcity of anaesthetists and ill functioning blood storage units seems to be mainly responsible of underutilization of operation theatres, lack of emergency care in DHs, SDHs and CHCs. Civil works, especially residential quarters for emergency staff needs attention of administration.

Human Resources in the State comprises of 142 specialists, 588 GDMOs with 412 in PHCs and 176 in CHCs. About 8 specialists and 176 GDMOs have been contracted under NRHM additionalities. The state has reported 28 PHCs functional with 4 or more doctors, 85 PHCs with 3 doctors and 182 PHCs with 2 doctors each. As per generic guidelines, PHCs are

expected to be manned by only one MO and thus higher strength of MOs indicates a relatively better health HR situation in the state and that is how all the 85 PHCs are reported to functioning on 24x7 basis. Nevertheless, 10 PHCs are yet reported to be working without a doctor and 165 SCs without ANM. Also 452 AYUSH doctors under NRHM additionalities are recruited on contract basis to supplement the gap of doctors at different health facilities. Thus additional contractual medical and paramedical staff under NRHM like 375 ANMs, 13 specialists, 309 staff nurses, 221 GDMOs, and 494 paramedics, has supplemented the human resource and the state seems to have filled up the gaps adequately.

Case Load has improved in the State such as the Institutional deliveries in the state have up surged from 0.91 lakhs in 2005-06 to 1.52 lakhs in 2008-09. However, number of JSY beneficiaries has gone up marginally from only 0.02 lakhs to 0.08 lakhs during the period. Bed occupancy seems to not commensurate with the infrastructure, especially of male wards/beds in DHs, SDHs, and CHCs. Number of institutional deliveries has increased from 0.9 lakhs in 2005-06 to 1.5 lakhs in 2008-09. Case load increase in J&K does not seem to be commensurate with the increase in infrastructure and human resource. Even the beneficiaries under JSY do not depict any marked improvement.

Children Fully Immunized are found to be only 2.7 lakhs in 2008-09, which have gone down marginally from 2.8 lakhs in 2007-08.

NDCP seems to be working well in the State as no death due to Malaria, Kala-Azar, Dengue, and Japanese Encephalitis is reported. However reported TB cases were 12525 in 2008 and Blindness cases were 1848 and only 217 malarial cases in the State. Also out of total state wise expenditure under NRHM on control of diseases was 110 lakhs with unspent balance of just 0.75 lakhs in the State. Thus, disease control activities under NRHM are working satisfactorily in the State.

Quality of Health Services seems to have improved because of improvement in the overall conditions of labour rooms, new born care corners, OTs, etc. in terms of availability/functioning of equipments was mixed in the sense that in some of the DHs and SDHs it was working satisfactorily and in some it was improper and need strengthening. Some of the facilities, especially DHs and SDHs the OPDs were overcrowded. Lack of privacy for women hampers the utilization of obstetric care. Institutional delivery care in few PHCs was without privacy, proper equipments, water supply, etc. Privacy of room was totally neglected and infection control of labour room was ignored. Introduction of JSY has significantly improved the institutional deliveries. However delayed payments of JSY fund to beneficiaries need to be administered by administration. Overall additionalities under NRHM and utilization of funds under RCH have improved the quality of services in Jammu and Kashmir. Nevertheless, correcting imbalance in deployment of human resource and physical infrastructure can further improve the quality of services. Even bio-waste management needs to be monitored properly. Some of the remote, difficult and almost inaccessible areas in Kashmir needs proper monitoring and strengthening of the health facilities in the State, especially Kashmir.

ASHAs in position are 9764 in around 6654 villages in the State and most of the ASHAs have been trained in two parts/ sessions, and had received drug kits in 2008-09. However, the kits have generally not been replenished thereby. Many motivated ASHAs were found working in the system. Some of them even paid referral services from their own pockets to bring the pregnant women to the hospital for deliveries/ANC check-ups. Few among them are tracking children due for immunization and maintaining registers. Most of the ASHAs are found to be

aware of her roles and responsibilities and are helping community in organization of health activities under the sub-centre. Incentive payments for ASHAs are normally getting delayed by an average of a month. Her participation in sensitizing adolescent girls is not found to be satisfactory.

AYUSH Services are provided in majority of the PHCs (317/518) in the State. Existing infrastructure for strengthening in the AYUSH services in the State comprise of 3 colleges and 5 hospitals and 588 dispensaries. There are around 3908 RMPs in the State. Even earlier around 1.3 crore budget from MoHFW was getting utilized during 2007-08 and thereafter the provision of around 3 crore in 2007-08 and 1.8 crore budget in 2008-09 has been made in PIPs. Contractual appointments of around 371 doctors and 236 paramedics were reported to be appointed by the end of 2008. Further initiatives proposed to mainstream AYUSH are provision of 78 mobile medical teams for the Gujjar and Bakarwals (tribes) in the State. Further, provision of AYUSH Doctors and additional Drugs as a special innovative activity for delivering services to the seasonal, temporary and shifting tribal and nomadic settlements has been suggested in PIP for 2009-10. State proposed to hire one AYUSH Doctor and a Pharmacist for every PHC (375) in the State. Unani and Ayurveda seem to be popular in the State.

Decentralization Process under NRHM seems to be working satisfactorily with number of ASHAs in position on the survey date was reported to be 9764 compared with 6788 villages in the state. Number of VHSCs constituted are 6788 with around 5215 operational joint bank accounts. Number of VHNDs observed during 2008-09 was reported to be 75192 in the state. Number of registered Rogi Kalyan Samities (RKSSs) was reported to be around 474 with 14 in DHs, 85 in CHCs, and 375 in PHCs.

Utilization of NRHM Funds seems to have been picking over the years but yet full utilization of the funds has never been achieved since inception. Similarly utilization of untied funds at different levels has also improved over the period.

Distribution of funds and equipments in different health facilities seems to be quite imbalanced leading to sub-optimal utilization of the equipments in the state. Blood storage facilities need to be strengthened in FRUs and sub-DH health facilities. Most of the medical staff was reported to be available only for day care services.

TAMILNADU

Physical Infrastructure in Tamil Nadu comprises of 27 DHs, 206 CHCs, 1215 PHCs and 8706 SCs. In all 291 health facilities are functioning as FRUs comprising of 27 DHs, 133 SDHs and 131 CHCs. All the health facilities viz. DHs, SDHs, CHCs, PHCs, and SCs are adequately equipped for the routine works and emergency situations. The DHs, SDHs and FRUs are well equipped for lab investigations like x-ray, ECG, ultrasounds, etc.

Human Resources in the state comprises of 725 specialists or post-graduate doctors. There is no PHC without a doctor or GDMO and all the 1215 PHCs are having three staff nurses. Out of 8706 SCs 8585 SCs are reported to have ANM implying only 121 SCs are without any ANM. All the facilities are provided with adequate number of Specialists, Doctors, Nurses, VHNs, Pharmacists, Lab Technicians, and other support personnel on regular or contract basis. Contractual staff under NRHM comprises of 385 GDMOs and 4179 Staff Nurses.

Case Load in Sate was already satisfactory and quite high like proportionate institutional deliveries was already above 95 percent even before the start of NRHM in 2005 and thus

marginal improvements during the period are observed from around 10.78 lakhs in 2005-06 to 11.05 lakhs in 2008-09. Nevertheless number of beneficiaries under JSY seems to have improved from just 0.87 lakhs in 2005-06 to 3.87 lakhs in 2008-09. Most of the health facilities are well equipped. However, PHC case load was reported to have increased remarkable since NRHM.

Children Fully Immunized have marginally gone down from 11.2 lakhs in 2007-08 to 10.1 lakhs in 2008-09. The marginal decline in no reflection on the immunization coverage but could also be because of decline in fertility.

NDCP seems to be working well in the State. Reported cases are primarily because of Dengue and Japanese Encephalitis. The reported cases depict a declining trend during 2004-09. Suspected cases of Dengue were 707 in 2007 and have come down to 113 in 2009, whereas suspected cases of Japanese Encephalitis depict an increase from 18 in 2006 to around 144 in 2008. Nevertheless, deaths due to Dengue were only sporadic such as 2 or 3 during the period.

Quality of Health Services in the State is quite satisfactory. Most of the health facilities had been working well even before the initiation of NRHM, but further supplementation of additionalities under NRHM has further strengthened the health system. Almost all the public health facilities are well maintained and upkeep of facilities is fine. All the Basic Emergency Obstetric Centres are extending Family Health Clinical services quite regularly.

ASHA scheme has not yet been implemented in Tamil Nadu. The tradition of AYAs helping VHNs/ANMs in villages is functioning well in the State. It has often been reported that shortfalls of AYAs in villages is getting serious. However, the institution of AYAS at village level is still quite popular and can be strengthened by inducting some of these, who can satisfy the selection criterion, as ASHAs in villages.

AYUSH Services are being provided in most of the DHs (27/27), CHCs (131/236) and PHCs (320/1181). Earlier around 17 crore budget from department of AYUSH under MoHFW was getting utilized for the AYUSH service. Existing infrastructure for strengthening of the AYUSH services comprise 28 colleges, 292 hospitals, 533 dispensaries and around 27233 RMPs functioning in the State. Nevertheless, for further strengthening a budgetary provision of around 11 crore was being suggested in 2009-10 PIP. However, more details for further strengthening of AYUSH institutes, provision of drugs, constitution of RKSs, specific activities under NCD control, etc. were sought to further the AYUSH mainstreaming objective in the State.

Communitization Process in the State has been further strengthened under NRHM. However, ASHAs have not been recruited in the state as the prevalent system of AYAs helping the VHNs in villages has continued. Most of AYAs are quite experienced and aged and possibly many of these AYAs can't be recruited as ASHAs with norms prescribed under the recruitment scheme. Around 15158 VHSCs are functional in around 16317 villages in the state. Also around 5 lakhs VHNDs were reported to be observed in the state in 2007-08 and had come down to around 4 lakhs in 2008-09. Number of registered RKSs was reported to be 1683, with 27 in DHs, 257 in CHCs, 234 in Block PHCs, and 1165 in PHCs. Utilization of untied funds at SC and PHC level has been quite good. All the VHSCs have operational joint accounts in the state. Further NRHM funds have almost been fully utilized in the state.

Drug Procurement and Supply under NRHM seems to working very well in the state. All PHCs and SCs are provided with requisite drugs and other supplies.

Diagram 2.1: Demographic Characteristics

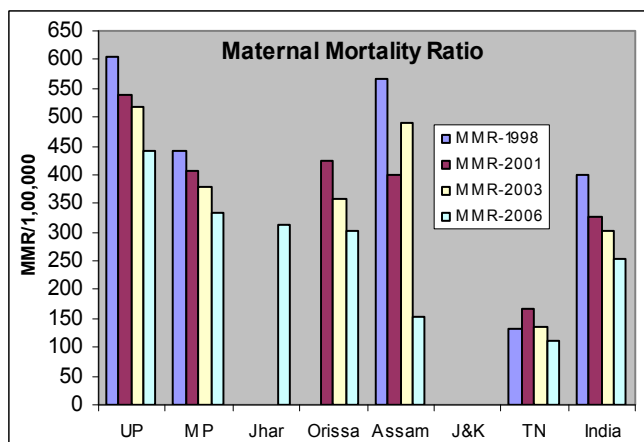
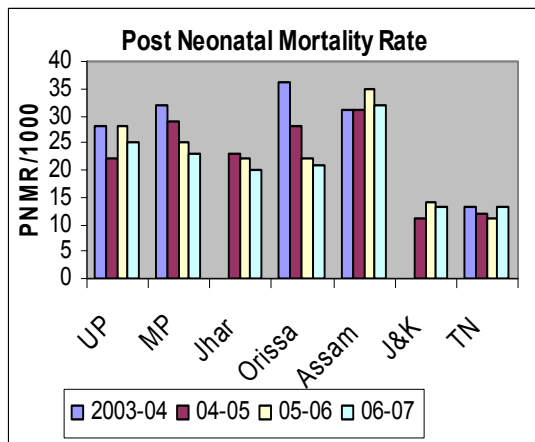
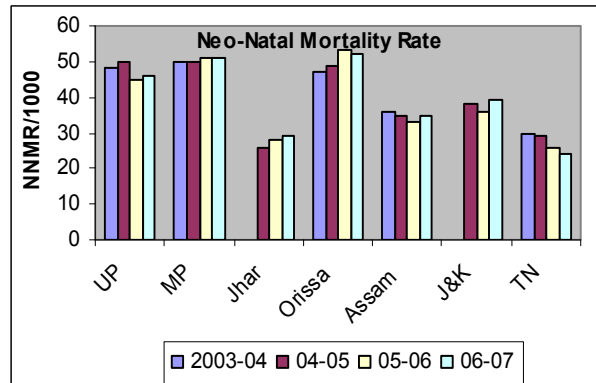
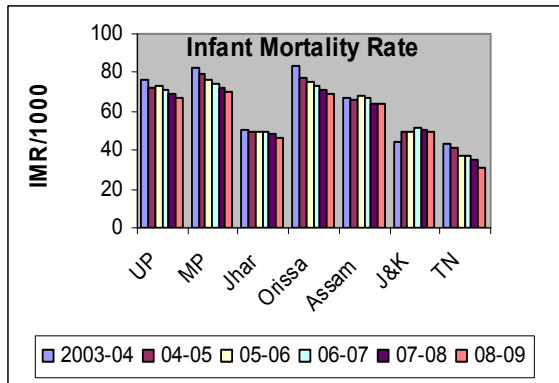
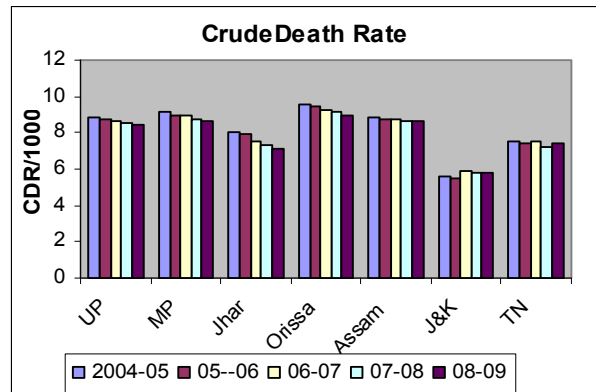
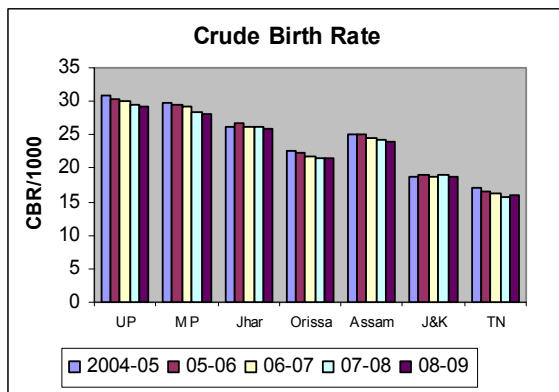
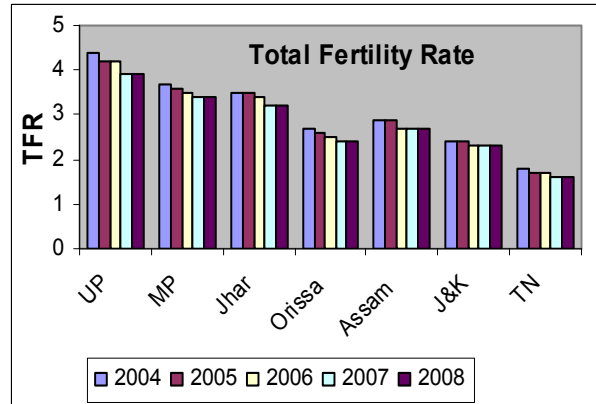
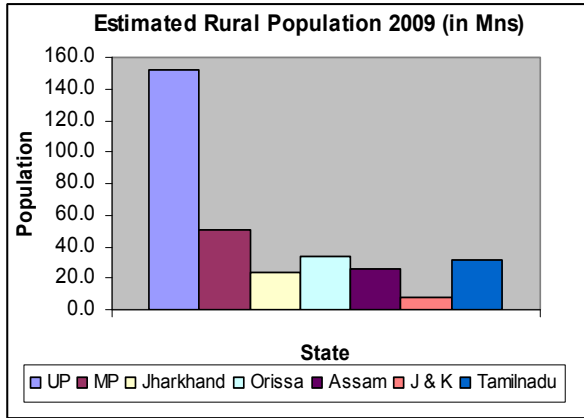
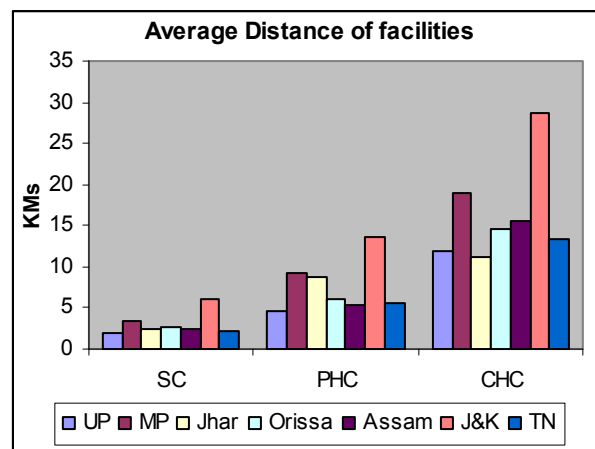
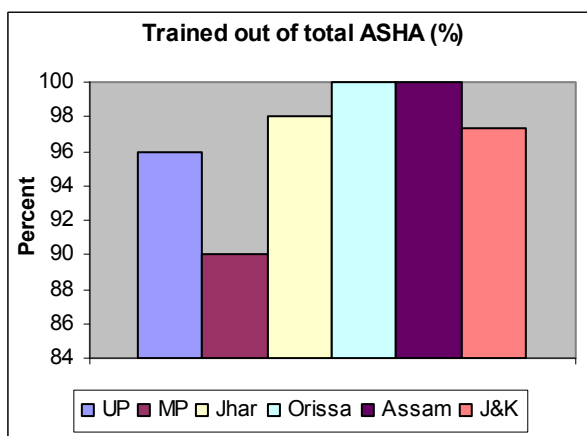
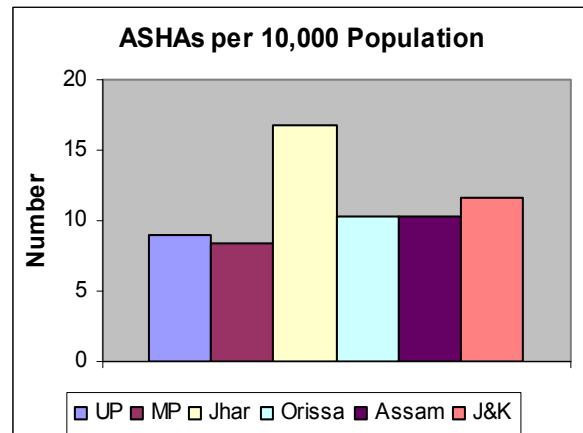
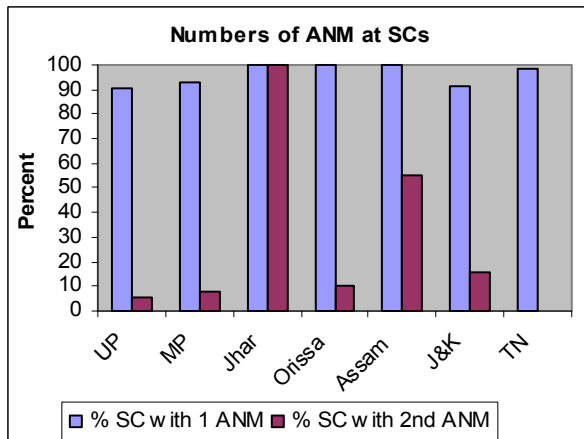
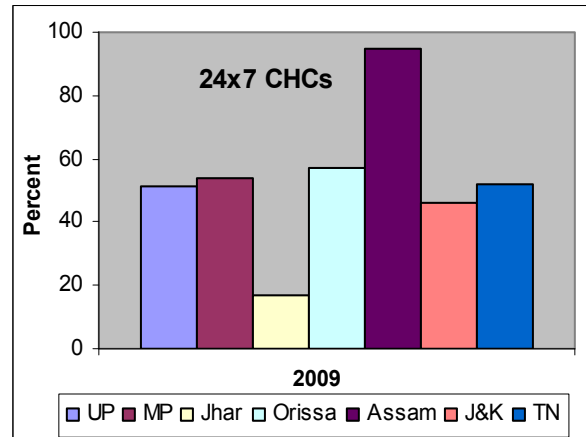
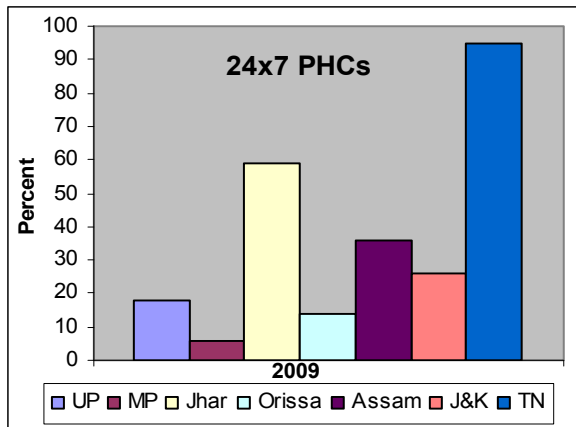


Diagram 2.2: Health Infrastructure



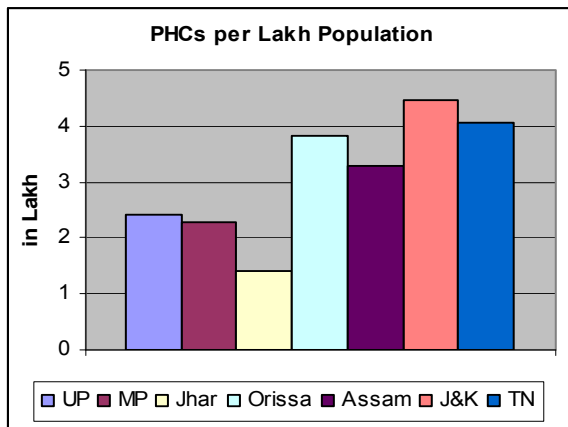
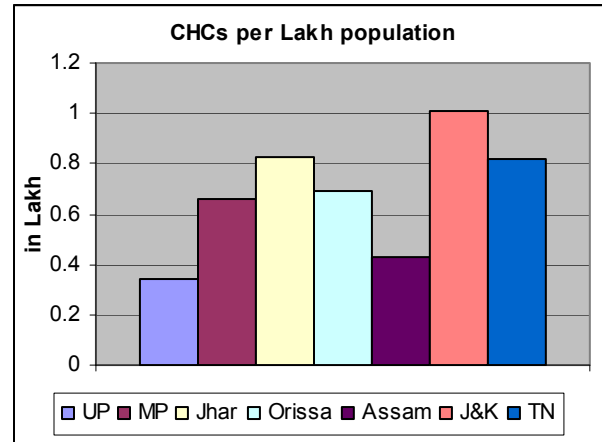
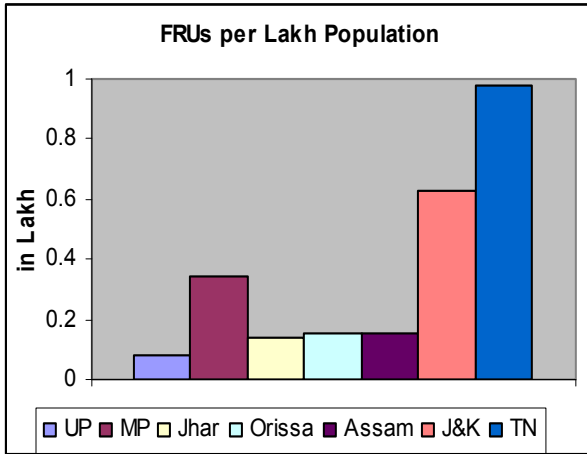


Diagram 2.3: Utilization of Health Services

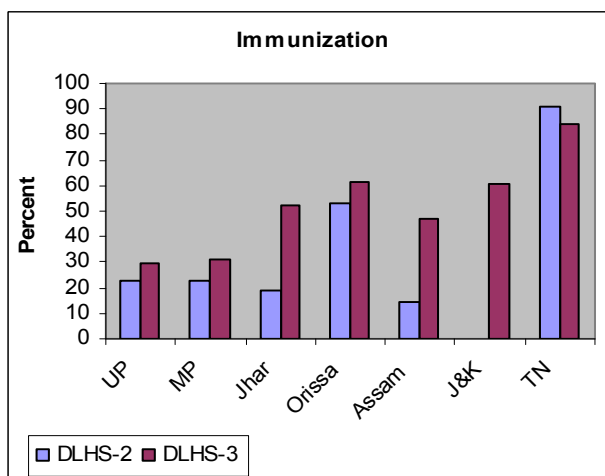
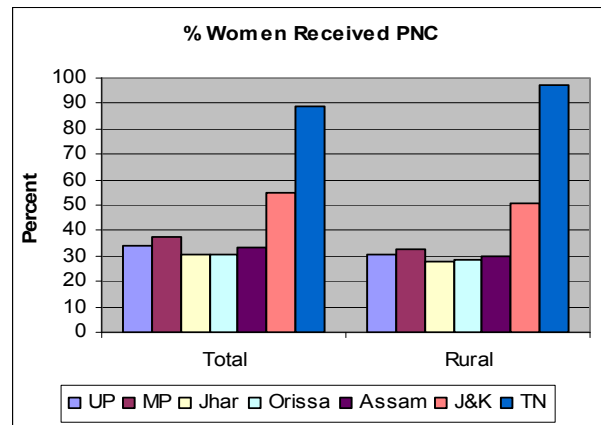
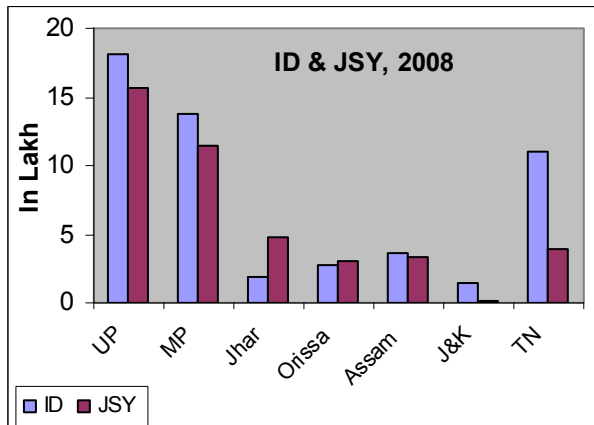
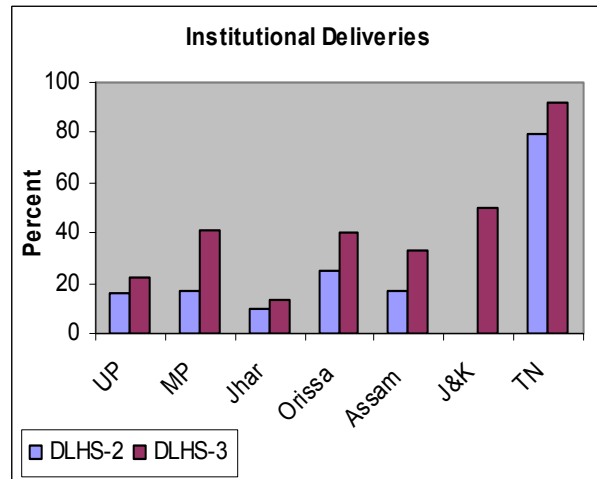
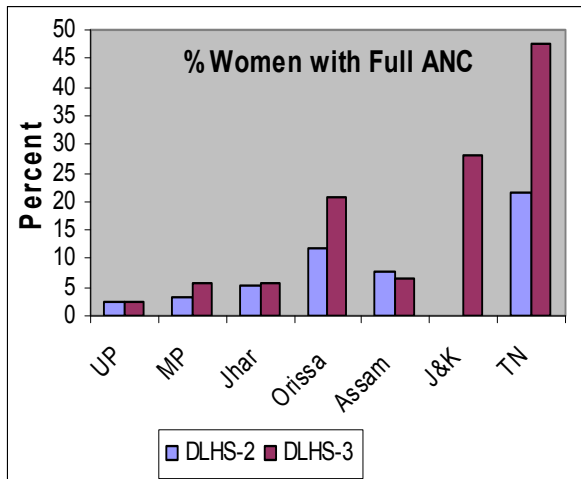


Table 2.1: Demographic Profile and Health Infrastructure for All-India and 7 States

Infrastructural Set Up at National Level								
	Uttar Pradesh	Madhya Pradesh	Jharkhand	Orissa	Assam	Jammu & Kashmir	Tamil Nadu	India
Demographic Scenario								
Total Population (2001) in million	166.2	60.35	26.9	36.8	26.66	10.14	62.41	1028.21
Rural Population (2001) in million	131.66	44.33	20.95	31.28	23.22	7.62	34.92	742.5
Total Population ¹ (RGI, 2009) in million	194.95	70.28	30.76	40.15	29.94	11.47	66.72	1166.29
Rural Population (RGI,2009) in million	152.55	50.98	23.65	33.54	25.57	8.43	31.55	820.54
Crude Birth Rate (SRS, 2008)	29.1	28	26	21.4	24	18.8	16	22.8
Crude Death Rate (SRS, 2008)	8.4	8.6	7.1	9	8.6	5.8	7.4	7.4
Total Fertility Rate (SRS,2007)	3.9	3.4	3.2	3.2	2.7	2.3	1.6	2.7
Infant Mortality Rate (SRS, 2008)	67	70	46	69	64	49	31	53
Neo Natal mortality Rate (SRS, 2006)	46	51	29	52	35	39	24	37
Maternal Mortality Ratio (SRS, 2004-06)	440	335	312	303	480	NA	111	254
Life Expectancy	59.7	57.65	NA	59.2	58.65	NA	65.95	63.1
Administrative & Health Infrastructure in Numbers								
No of Districts	71	50	24	30	27	22	32	643
No. of Blocks	813	313	211	314	219	107	385	6348
No of Villages	107452	55393	32615	51349	26312	6652	16317	638588
District Hospitals	71	50	24	32	22	14	27	578
Community health Centres	515	270	194	231	103	85	206	4276
24x7 facilities	1368	302	394	282	416	135	2870	14365
Primary Health Centres	3690	1149	330	1279	844	375	1215	23458
Total no. of FRUs	124	87	16	48	60	53	291	2514
Sub centres	20521	8834	3958	668	4592	1907	8706	146036
Pvt. Institutes accredited under JSY	302	0	139	17	7	6	0	5635
ASHAs	135522	43038	40788	34252	26225	9764	2650	730909
VHSCs	51150	21282	30011	37078	26816	678	15158	427955

Infrastructural Set Up at National Level								
	Uttar Pradesh	Madhya Pradesh	Jharkhand	Orissa	Assam	Jammu & Kashmir	Tamil Nadu	India
Average Rural Population Covered (2001)								
Sub centres	6416	5024	5294	4678	5056	4000	4011	5084
Primary Health Centres	35680	38626	63491	24462	27507	20339	28742	31652
Community Health Centre	255647	164374	108000	135443	225401	89730	169523	173641
Average Rural Area Covered (Sq.Kms)								
Sub centres	11.42	34.1	19.69	22.86	16.87	116.04	13.5	21.35
Primary Health Centres	63.51	262.21	236.13	119.56	91.8	590.1	96.73	132.93
Community Health Centre	455.09	1115.86	401.66	661.96	752.2	2603.36	570.55	729.26
Average Radial Distance Covers (Kms)								
Sub centres	1.91	3.29	2.5	2.7	2.32	6.08	2.07	2.61
Primary Health Centres	4.5	9.13	8.67	6.17	5.4	13.7	5.55	6.5
Community Health Centre	12.03	18.84	11.3	14.51	15.47	28.78	13.47	15.23

¹. Expert Committee's estimated population projections for the all the states were utilized for interpolation of the figures for 2009 (RG, 2001).

Chapter 3

Facility Survey

Introduction

In-depth interviews with the Key Officials in the State Headquarters, District Headquarters, District NRHM Health Societies (DHSs), District Program Management Units, Chief Medical Officer/Office (CMO), Medical Superintendent (MS) office, etc. we had elicited lot of information on the **key-dimensions** like profile of members of the DHS, demographic characteristics of the District, flow of funds, roles and responsibilities, National Disease Control Programme/other schemes under NRHM, District health Plans, etc. Additionally we gathered quantitative details on physical health infrastructure comprising of both public as well as private, Human Resources, Rogi Kalyan Samities (RKSSs), Janani Suraksha Yojana (JSY), and Financial Flow Mechanisms. Further information on provision and utilization of health services, NRHM initiatives under Public Private Partnerships like Rogi Kalyan Samities (RKSSs) and Village Health and Sanitation Committees (VHSCs), initiatives under mainstreaming of AYUSH, recruitment and training of ASHAs, conducting Village Health and Nutrition Days (VHNDs), financial outlays and utilization of NRHM funds under RCH and NRHM additionalities, etc. got focused in the interviews with key health personnel in District Head Quarters and District Health Societies. Similarly structured schedules were canvassed and information got collected from public health facilities like DH, CHC, PHC, and SC, and also separate schedules for ANM, ASHA, AYUSH, Gram Panchayats, etc.

Overall 37 DHs, 74 CHCs, 148 PHCs, 294 SCs, 3307 ASHAs, and 260 VHSCs have been covered in 37 districts stretched over seven states viz. Uttar Pradesh, Madhya Pradesh, Jharkhand, Orissa, Assam, J&K and Tamil Nadu. Structured Schedules were canvassed with the District Hospital's key officials as well as departments and data was collected on key dimensions like profile of members of District Health Society, demographic profile of the district, availability of public health facilities like number of CHCs, PHCs, SCs, physical health infrastructure in the district, health human resource like specialists, medical and paramedical staff, ASHAs, mobile medical units, etc. Information on institutional deliveries, JSY beneficiaries, Accreditation of health institutions under JSY, etc. Additional information on major diseases reported in the district, flow of funds, roles and responsibilities entrusted to the committees, information about National Disease Control Programme. Hard copies of the District Health Plans was verified and collected wherever were made available.

After interacting with District NRHM society member for collection of district level information on general physical health infrastructural facilities in the district comprising of both public as well as private, human resources, functioning of Rogi Kalyan Samiti, Janani Suraksha Yojana, Institutional Deliveries, and financial mechanism in the district visits were made to DHs to collect detailed information on physical infrastructure, availability of residential quarters in the hospital premises, services rendered in Obstetric and Gynaecological wings, surgical and medical sections, paediatric and diagnostic sections, etc.

Functioning of District Health Societies: Role and Responsibilities

Majority of the District Health Societies reported **discussion on PHC Health Committee Reports**, monthly monitoring of infrastructure, participation in development of

District Health Plans. However, no discussion on PHC health committee reports was reported only in one district in Assam and J&K like Barpeta and Udhampur, respectively. Similarly, no participation in development of District Health Plans was reported by two districts each in Assam and J&K such as Barpeta and Sonitpur in Assam and Udhampur and Doda in J&K.

An important activity like **Health Facility Surveys** to be conducted by the DHSs in the districts was not reported by many of the societies. Overall most of the District Health Societies having one of the primary responsibility of conducting health facility survey/ supervision of household surveys are not being carried out such as only in 19 out of 37 districts had reported involvement in such an important activity in their respective districts. The activity was reported to be insignificant in states like UP, MP and J&K. Like in Uttar Pradesh four out of six districts viz. Mathura, Mahoba, Sultanpur and Unnao; four out of six in Madhya Pradesh viz. Katni, Nimach, Shivpuri and Hoshangabad; 3 out of 5 in Jharkhand viz, Dhanbad, Giridih and Chatra; only one out of five in Orissa viz. Bolangir; two out of five in Assam viz. Barpeta and Darrang; and only one out of five viz. Baramula in J&K; reported carrying out any such facility survey. Of course in Tamil Nadu facility survey was reported by all the five DHSs.

Overall the District Health Societies (DHSs) have been functioning well in carrying on some responsibilities such as PHC's health committee reports are being discussed in 35 out of 37 District Health Societies (DHSs) excepting Barpeta in Assam and Udhampur in J&K. Similarly, monitoring of infrastructure by DHSs has been reported in 29 districts and contribution towards development of District Health Plans (DHPs) in 33 out of 37 districts. On involvement of NGOs, convergence and health facility surveys, still lot more has to be picked up in states like Uttar Pradesh, Madhya Pradesh, Jharkhand and J&K.

Functioning of District Health Missions

Flow of NRHM Funds is reported to be done electronically in all the 37 districts excepting three viz. Vidisha in Madhya Pradesh, Kendrapara in Orissa and Udhampur in J&K. District Health Societies have reported participation in preparation of District Health Plans including financial outlays and physical targets in all the 37 districts.

PPP Initiative under JSY scheme has been reported in 25 out of 37 districts. In three states i.e. Uttar Pradesh, Madhya Pradesh, and Tamil Nadu; the initiatives are reported by all the surveyed districts in these states. However, the initiatives under JSY are not reported in 13 out of 37 covered districts like two districts in Jharkhand viz. Giridih and Chatra; three in Orissa viz, Rayagada, Kendrapara and Puri; three in Assam viz. Barpeta, Sonitpur and Darrang; and all the five excepting Baramulla in J&K have not reported the PPP initiative under JSY scheme. Involvement of NGOs at the district level was found to be almost non-existent excepting in Ranchi in Jharkhand.

Vertical Integration of all the Health Societies created under different programmes in the districts into District Health Society has been reported in all the districts in UP, MP, Jharkhand and Tamil Nadu. However, Kendrapara in Orissa and Sonitpur in Assam have not reported the vertical integration.

National Disease Control Program (NDCP), though still under separate disease-specific head under NRHM budget also, seems to be working well in most of the districts. Nevertheless reporting of data on the **incidence of diseases** was quite scanty. Most of the programme management units did not report incidence data for all the diseases rather most of the

reporting was only on four major diseases viz. Malaria, Leprosy, TB and Blindness. It was interesting to note that declining trend in the incidence of these diseases was reported in almost all the 37 districts excepting for Malaria in Giridh, West-Singhbhum and Chatra in Jharkhand and Royagada in Orissa. In Kendrapara of Orissa we found that reporting of exceptionally higher number of cases under Dengue were reported for 2008. Similarly increased incidence of TB during 2004-08 was reported in three districts of Jharkhand viz. Ranchi, Giridh and West Singhbhum; two districts in Orissa viz. Royagada and Keonjhar. Maximum cases of blindness were reported in some of the districts in Uttar Pradesh like Mahoba, Sultanpur and Unnao. So regional concentration of incidence of Malaria seems to be much higher in Orissa and Jharkhand, of TB in Orissa, Assam and J&K, of Leprosy in Orissa, of Blindness in UP, MP, Jharkhand and Orissa. Surprisingly, Leprosy cases reported in Madurai of Tamil Nadu are also quite substantial. Blindness, partial or complete, cases are reported to relatively much higher in Mahoba and Sultanpur districts of UP, Neemach of MP, Dhanbad of Jharkhand, Bolangir and Keonjhar of Orissa, Salem and Madurai of Tamil Nadu. Incidence of Filarisis was reported to be relatively higher in Tamil Nadu, Orissa and Jharkhand. However, the trends in incidence of most of the diseases were found to be declining in most of the districts during 2004-08. Thus, regional patterns of concentrations of different diseases clearly suggest that the NDCP needs to region and disease specific to get the optimal results for controlling disease in India.

Functioning of District Hospitals

Environmental Clearance from Pollution Control Boards was not obtained in 10 out of 37 DHs visited under study. These 10 DHs without the clearance certificates were in Mathura and Mahoba in UP, in Chatra in Jharkhand, in Keonjhar in Orissa, Barpeta and Sonitpur in Assam, Udampur, Baramula and Badgoan in J&K, and Salem in Tamil Nadu. Further 10 out of the 37 DHs were not **disabled friendly** like in three districts in UP viz, Mathura, Mahoba and Saharanpur; in two districts in MP viz. Nimach and Shivpuri; in three districts in Jharkhand viz. Ranchi, West-Singhbhum and Chatra; one in Assam viz. Cachar; and one in J&K viz. Doda.

Intensive Care Units (ICU) are not available in 19 out of 37 DHs covered under the study. Surprisingly, 3 out of 6 DHs in UP viz, Sultanpur, Mau and Unnao; 2 out of 6 in MP viz. Neemach and Hoshangabad; 2 out of 5 in Jharkhand viz. West Singhbhum and Chatra; 4 out of 5 in Orissa as well as J&K don't have ICUs such as only Bolangir in Orissa and Udampur in J&K have the ICU facility; and surprisingly Tuticorn in Tamil Nadu also does not have the ICU facility.

Blood Bank/ Blood Storage facility available in 35 out of 37 DHs, Only Chatra in Jharkhand and Cachar in Assam have not reported any blood storage facility which is important for any surgical intervention and other emergency services like complicated delivery and sick child care.

Proper **Drainage and Sanitation** system is functioning only in 29 out of 37 DHs. In Madhya Pradesh DHs of Neemach and Hoshangabad, Chatra of Jharkhand, 3 out of 5 DHs in Orissa viz. Bolangir, Keonjhar and Puri, Doda DH of J&K and Tuticorn of Tamil Nadu the drainage system was not functioning properly.

Pharmacy is available in almost all the 37 DHs excepting Chatra in Jharkhand. Similarly Doctor's Duty Room is also available in all DHs excepting Chatra. Interestingly other infrastructural facilities like telephone, fax machines, computers are more or less available in and functioning in almost all the DHs.

Overall availability of basic infrastructural facilities like ICU, Blood Storage facility, proper sanitation conditions, doctor's duty room, Pharmacy, telephone, fax machine, etc. seems to be available in most of the DHs and some of the DHs listed above not having even ICUs need to be upgraded and possible some of the DHs like Sultanpur in UP, Neemach and Hoshangabad in MP; Chatra and West- Singhbhum in Jharkhand; Cachar in Assam, Doda in J&K and Tuticorn in Tamil Nadu; needs lot more emphasis to upgrade the health care services in District Hospitals for improving the quality health services.

Table 3.1: Status of District level Functioning of Public Health Institutions in the 7 Surveyed States (Number)

District Hospital	UP	MP	Jhar	Orissa	Assam	J&K	T.Nadu	India	% age
No. of DH surveyed in selected District	6	6	5	5	5	5	5	37	100
Financial Mechanism									
Vertical health societies merged under DHS	6	6	5	4	4	1	5	31	84
Common bank account for all programmes in district	3	2	5	4	4	1	4	23	62
District has prepared DAP for current year	6	6	5	4	5	3	5	34	92
Funds transfer electronically by state to district	6	5	5	4	5	4	5	34	92
Roles & Responsibilities of DHS									
Discussion on PHC health committee reports	6	6	5	5	4	4	5	35	95
Monthly monitoring of infrastructure provided under NRHM	6	5	5	3	4	2	4	29	78
Contribution in development of DHP	6	6	5	5	3	3	5	33	89
Initiative in identification of various problems faced by patient at various level	5	6	4	5	4	4	3	31	84
NGOs involvement in the mission at district level	2	4	3	5	5	4	4	27	73
Converged with other department of the government	4	5	4	5	5	4	4	31	84
Carry out any health facility survey/supervision of HH surveys	2	2	2	4	3	1	5	19	51
Physical Infrastructure in DH									
Environmental clearance obtained from Pollution Control Board	4	6	4	4	3	2	4	27	73
Hospital building is disabled friendly	3	4	2	5	4	4	5	27	73
Availability & services in DH									

District Hospital	UP	MP	Jhar	Orissa	Assam	J&K	T.Nadu	India	% age
Waiting space adjacent to consultation & treatment room	5	6	5	3	2	4	4	29	78
Registration Counter	6	6	3	4	5	5	5	34	92
Blood bank/blood storage unit	6	6	4	5	4	5	5	35	95
Doctor's duty room	6	6	4	5	5	4	5	35	95
Pharmacy	6	6	4	5	5	5	5	36	97
ICU	3	4	3	1	1	1	4	17	46
24 Hours water supply	6	6	5	5	5	5	5	37	100
Proper drainage & sanitation system	6	4	4	2	5	4	4	29	78
Parking facilities	6	5	2	3	3	3	5	27	73
Medical record Section	6	6	4	4	3	2	4	29	78
Telephone facility	6	6	5	5	5	5	5	37	100
Fax facility	5	5	5	2	1	4	3	25	68
Computers	6	6	5	3	5	5	5	35	95
Internet facility	5	5	5	1	3	2	4	25	68

Functioning of Community Health Centers

A structured schedule was canvassed at CHC level and information was elicited primarily from Medical Office In-charge (MOiC) in the CHC. Apart from background information of the respondent the structured schedule intended collection of information on background of CHC, medical and paramedical human resource, availability of specialist services including emergency services, family planning and counselling facilities. Further information of diagnostic equipments, facilities and services, physical infrastructure, furniture, drugs/medicines as per checklist of IPHS, etc. was elicited by canvassing the schedule. Thereby suggestions and opinions about NRHM were also elicited from the respondents. The field team covered 74 CHCs, with two each under covered DH in each of the 37 districts under the purview of the present study.

It is interesting to note that almost all the CHCs in all the seven states report 24 hours delivery services including normal and complicated deliveries. But when we come to availability of emergency obstetric care, emergency care for sick children, safe abortion services, etc. the study field finds the situation is awful in most of the districts. Availability of specialists/doctors comprising of surgeons, gynaecologists, paediatricians, and even physicians seems to quite poor in most of the CHCs. Even laboratory and diagnostics facilities like X-Ray, Ultrasound, ECG machines are reported to be non-functional in most of the CHCs. However, Rogi Kalyan Samities are reported to be functioning in most of the CHCs and even AYUSH facilitators/doctors are also found to be in place in majority of the CHCs.

In Uttar Pradesh the Emergency Obstetric Care facilities are reported only in two CHCs in Saharanpur out of 12 CHCs covered under 6 DHs in 6 districts. Otherwise all the other 10 CHCs in other five districts of UP are lacking in terms of all these services. Even the bed occupancy rates in last one year are around 40% or less. In terms of Human resource situation

most of these CHCs are not having General Surgeon, Obstetrician/Gynaecologist, and Paediatrician are not in position in most of these CHCs. Coming to diagnostic facilities even X-Ray, ECG machines were not found functional. Similar is the situation in Madhya Pradesh where though 24 hours delivery services available for normal as well as complicated deliveries, but similar is the situation for other dimensions. All the CHCs have reported constitution of Rogi Kalyan Samities. However, AYUSH doctor in position is reported only in on CHC at Panwari in Mahoba district. Overall availability of emergency health services, specialists, diagnostic facilities are better in Saharanpur, Mathura and Unnao.

In Madhya Pradesh only 2 CHCs of Hoshangabad are reported to be having emergency obstetric care whereas in all the other 10 CHCs in Katni, Neemach, Vidisha, Shivpuri and Dhar, emergency obstetric care and surgical medical intervention facilities are missing. However, emergency services for sick children are missing only in 4 CHCs in Katni and Neemach viz. Rithi, Umaria, Manasa and Sigoli. Bed occupancy situation is again not good in the sense that only around 40% or less occupancy was reported in all the CHCs. None of the 12 CHCs in MP reported availability of functioning ECG and X-Ray machines under diagnostic facilities. Under human resource situation is awful in the sense no Physician, no Paediatrician, no Anaesthetist, no Eye-surgeon is available in any of the 12 CHCs. Only General Surgeon is reported to be available in 2 CHCs of Katni district in 8 CHCs in 4 districts Neemach, Vidisha, Hoshangabad and Dhar. Nevertheless, availability of paramedical staff like nurses, lab-technicians, ward boys, etc. is reported to be in position in most of the CHCs. Still physical infrastructure in terms of good buildings with clean floors, pharmacies, functional labor rooms, is reported in most of the CHCs. All the 12 CHCs have reported constitution of RKSs. There is no AYUSH doctor in position at any of the 12 CHCs. Overall availability of emergency services, specialists/doctors and diagnostic facilities are better in Hoshangabad and Neemach in Madhya Pradesh.

In Jharkhand only 6 out of 10 CHCs have reported availability of 24 hours delivery services. In Districts of Dhanbad and Chatra all the 4 CHCs have not reported the 24 hours delivery facility. Further, emergency obstetric care, caesarean and other surgical interventions are not available in any of the 10 CHCs. However, emergency care for sick children is reported to be available in 6 CHCs under 3 DHs of Ranchi, Giridh and Chatra. Thus, most of the CHCs in Dhanbad, West-Singhbhum and Chatra don't have any emergency services for obstetric care, surgical interventions, and sick children. Further, these CHCs don't have laboratory/diagnostic facilities like X-Ray, Ultrasound, and ECG facilities. Similarly regular positions of General Surgeon, Gynaecologist, and Paediatrician are also not filled up. Interestingly functional pharmacy is reported in all the 9 CHCs excepting Nirsa in Dhanbad. AYUSH doctor in position in one of the CHCs and RKSs are functioning in 5 CHCs in districts of Ranchi and Chatra. Overall CHCs in Ranchi out of all the districts are functioning better compared to other districts of Jharkhand.

In Orissa 9 out of 10 CHCs have reported availability of 24 hour emergency services for normal and assisted deliveries. Only 1 CHC in Udaypur in Keonjhar district has not reported the 24 hour delivery services. But, emergency services for obstetric care are available only 2 out of 10 CHCs viz. Hari Chandan Pur in Keonjhar and Bissam Cuttak in Royagarh. Emergency services for sick children in 3 out of 10 CHCs are available viz. Bissam Cuttak in Rayagarh, Hari Chandan Pur in Kendujhar and Chandanpur in Puri. Even bed occupancy rate is below 40% in last year in all the CHCs. Diagnostic facilities are reported to be missing in all the 10 CHCs. Even specialists/doctors are found to be not in position in most of the CHCs in all the five districts excepting availability of Obstetrician, and Paediatrician in both the CHCs of Puri viz.

Nayahat and Chitana. Laboratory/Diagnostic facilities are totally absent in all the 10 CHCs as none of these have functional ECG, X-Ray and Ultrasound machines excepting Hari Chandan Pur in Kendujhar reports functional X-Ray machine. Availability of specialists/doctors like general surgeon, obstetrician, and paediatrician in regular positions are in-place in both CHCs only in Puri and Kendrapara. Overall availability of doctors seems to be better in Puri and Kendrapara. Functioning of Rogi Kalyan Samities is reported in all the 10 CHCs in Orissa. AYUSH doctors/facilitators are reported in 6 out of 10 CHCs in districts of Bolangir, Kendujhar and Puri. Overall somewhat better health services in CHCs in Puri and Kendrapara districts of Orissa.

In Assam again all the 10 CHCs have reported availability of 24 hours delivery services, both normal as well as complicated. While coming down to emergency obstetric care is available only in 2 CHCs viz. Sipajhar in Darrang district and Naharani in Dibrugarh district. Similarly emergency care for sick children is available only in 3 out of 10 CHCs viz. Morantilo and Naharani of Dibrugarh and Chariduar of Sonitpur district. Thus, availability of emergency services seems to be relatively somewhat better in Dibrugarh, Sonitpur and Darrang. Coming to specialists/doctors in regular position only in Darrang district we have general surgeon, physician as well as obstetrician/gynaecologist and in Chariduar of Sonitpur we have general surgeon as well as physician. Coming to laboratory/diagnostic facilities only one CHC viz. Dhekijuli in Sonitpur has reported functioning X-Ray machine and only one CHC viz. Naharani in Dibrugarh has reported functioning ultrasound machine. ECG machine is not available/functioning in any of the 10 CHCs. However, referral transport services have been reported to be available in 7 out of 10 CHCs. Again all the 10 CHCs have reported functioning Rogi Kalyan Samities. Thus, overall doctors, diagnostics services, and infrastructural facilities are somewhat better in CHCs in districts of Dibrugarh and Darrang.

In Jammu and Kashmir all the 10 CHCs have reported availability of 24 hours delivery service for both normal as well as assisted deliveries. However, when we look at the emergency obstetric care, caesarean and other surgical intervention services only 2 CHCs in Jammu district viz. Akhnor and Bishnah; report the availability and in all the other 8 CHCs we the facility if not available. Further, Emergency Care for Sick Children is available in 4 out of 10 in CHCs viz. Chenani and Ram Nagar Udhampur district and Tangmarg and Pattan in Baramulla district. Interestingly, diagnostic facilities like ECG, X-Ray and Ultrasound machines are reported to be functioning in all the 10 CHCs under all the 5 District Hospitals. However, availability of key specialists/doctors like obstetrician/gynaecologist not in position in 4 out of 10 CHCs like Akhnoor in Jammu, Bhaderwah and Gandoh in Doda and Beerwah in Budgaon. Overall doctors in position are missing in Doda and Budgaon. Similarly Paediatricians in position are quite limited. AYUSH doctor in position is reported only in 1 out of 10 CHCs viz. Bisnah in Jammu. Referral transport is available in all the 10 CHCs. Thus, overall combination of key components of healthcare like positioning of doctors, lab-technicians, functioning diagnostic machines and referral transport; seems to be good in districts of Jammu, Baramulla and Udhampur.

In Tamil Nadu 24 hours delivery services are reported to be available in all the 10CHCs in 5 districts. Even in Tamil Nadu emergency obstetric care, caesarean and surgical interventions are reported to be available in only 5 out of 10 CHCs under 5 DHs. Availability of emergency care of sick children as well as paediatric beds are poor in most of the CHCs. The availability of emergency services seems to be better in districts of Madurai, and Tuticorn. Availability of lab-test and functioning machines for diagnostic tests like ECG and Ultrasound machines is reported to be available in almost all the 10 CHCs excepting in Prandur of Kanchipuram district.

Surprisingly doctors/ specialists in position is reported to be very poor in the sense obstetrician/gynaecologists, paediatricians, and general surgeons are not available in any of the 10 CHCs. General Physician is available only in 1 CHC viz. Keal Eral in Tuticorn. Interestingly, referral transport services are available in all the 10 CHCs and also AYUSH doctors are available in 8 out o 10 CHCs. Thus, overall doctors/ specialists in position at CHC level seems to be poor whereas diagnostic facilities, emergency services for obstetric care, referral transport services seems to be alright in most of the CHCs and relatively much better in districts of Madurai, Tuticorn, and Kanchipuram.

Overview of the CHC facility level availability of emergency health care facilities for obstetric care, surgical interventions, sick child care, 24 hours basis delivery care, abortion services, availability of key medical specialists/doctors, diagnostic facilities, lab-technicians, referral transport services, etc. seems to be good in CHCs in districts where functioning of District Hospitals is also good. Juxtaposing the output parameters like institutional deliveries, children immunization, National Disease Control Programmes, safe abortions, etc, District level and CHC level infrastructural, physical as well as human resources, and governance and public participation in terms of RKSSs, Accreditation, VHSCs, etc. seems to be intricately connected at the district level.

Table 3.2: Community Health Centres' Health Related Information in different states (Numbers)

CHCs	UP	MP	Jhar	Orissa	Assam	Jammu	TN	India	%age
Numbers	12	12	10	10	10	10	10	74	100
24 hrs delivery services including normal and assisted deliveries	12	12	6	9	10	10	10	69	93
Emergency obstetric care, caesarian and other surgical medical intervention	4	6	0	2	2	2	5	21	28
Emergencies care of sick children	9	9	6	3	3	6	5	41	55
Full range of family planning services including laparoscopic services	9	10	3	3	5	2	5	37	50
Safe abortion services	5	8	2	7	6	7	2	37	50
Treatment of STI/RTI	6	11	4	7	7	9	8	52	70
Referral transport services	10	10	6	8	7	10	10	61	82
Separate wards for male/female	10	10	5	9	9	8	10	61	82
Pediatric Beds	6	3	3	6	5	4	0	27	36
Counseling for HIV/AIDS/STD	7	8	8	5	2	7	10	47	64
Voluntary Counseling	9	7	7	4	1	7	8	43	58
Ante Natal Clinic	12	12	6	10	9	10	10	69	93
Post Natal Clinic	8	12	7	10	10	10	10	67	91
Immunization Sessions	7	9	9	10	9	9	5	58	78
Is separate septic room available	9	7	2	3	2	6	6	35	47
Out-patient department in Gynecology/obstetric	9	5	1	5	4	9	7	40	54
Rogi Kalyan Samiti	11	12	5	10	10		8	56	76
Lab/Diagnostic Facilities									
Availability of ECG currently at CHC	0	2	2	0	0	10	10	24	32
X-Ray facilities currently at CHC	10	10	2	1	1	10	3	37	50

CHCs	UP	MP	Jhar	Orissa	Assam	Jammu	TN	India	%age
Ultrasound facilities currently at CHC	0	0	1	0	1	10	9	21	28
Availabilities of specific lab test facilities	12	6	7	2	8	10	9	54	73
Physical Infrastructure									
Completed building construction	5	3	5	3	8	6	6	36	49
Good condition of floors	12	8	8	5	6	8	7	54	73
Good cleanness in OPD premises	10	11	6	7	8	9	10	61	82
Good cleanness in OT	9	11	4	6	6	9	10	55	74
Good cleanness in wards	9	9	3	4	4	3	10	42	57
Good cleanness in premises	9	6	3	6	6	6	8	44	59
Separate toilets for male and female	12	9	6	5	8	6	6	52	70
Pharmacy	10	10	9	9	9	10	10	67	91
Functional labour room	11	9	7	10	7	10	10	64	86
Functional laboratory	12	12	6	10	8	10	10	68	92
X-Ray room with dark room facility	11	10	2	1	4	10	4	42	57
Operation theater	12	7	5	7	5	7	9	52	70
Human Resources in regular position									
General surgeon	6	2	2	8	4	5	0	27	36
Physician	5	1	5	4	5	8	1	29	39
Obstetrician/Gynecologist	3	5	2	6	1	6	0	23	31
Pediatrics	3	2	0	5	0	5	0	15	20
Anesthetist	3	2	2	0	1	0	0	8	11
Public health programme manager	3	0	1	0	3	6	0	13	18
Eye surgeon	2	2	0	0	0	0	0	4	5
Doctor of AYUSH	1	1	1	8	4	1	7	23	31
General duty doctor (Medical Officer)	10	7	7	4	7	9	8	52	70
Public health nurse	1	1	8	1	8	8	9	36	49
Dresser	1	12	4	1	2	5	2	27	36
Lab. technician	11	12	7	8	9	10	10	67	91
Radiographer	7	8	3	2	3	5	4	32	43
Ophthalmic assistant	10	11	4	1	7	8	9	50	68
Ward boys/nursing orderly	11	12	8	5	4	7	4	51	69
Cleaners	12	10	9	6	9	9	8	63	85
Chowkidar	7	1	5	0	7	2	4	26	35

Functioning of Primary Health Centres

In order to provide optimal level of quality health care, Primary Health Centre is universally recognized the most effective intervention to achieve significant improvements in health status of population in the locality. For the purposes 24 PHCs have been surveyed in our sampled districts under the sampling criteria of 2 PHCs under each of selected CHCs in the district.

UTTAR PRADESH

In Uttar Pradesh, 92% of the surveyed PHCs were reported to be functioning in own buildings and in 71% PHCs construction was completed under NRHP upgradation. In 58% PHCs drinking water and storage facility was available. In 96% PHCs pharmacy and 88% PHCs adequate medicines were available. However, OPD rooms were in 88% of PHCs, family welfare clinic in 63%, OT in 50% PHCs were available but casualty was in only 25% PHCs and separate labor room was in 46% PHCs. At the instance of communication facility, in only 54% PHCs electricity was available but communication facility like mobile phone, telephone, etc., was available only in 21% facilities. In context of transport facility, it was very poor condition in the sense that not even in single PHC, it was available.

At the service delivery point in the surveyed PHCs it was discerned that 96% of the PHCs were providing OPD and 63% were providing IPD services. ANC, PNC and new born care services was available in 67%, 79% & 79% respectively. However, family planning services were getting provided by 100% PHCs. But AYUSH services was very poor in the state and only 38% PHCs was providing the same but in Saharanpur and Sultanpur, no single PHCs was providing AYUSH services. Monitoring & supervision was doing by 65-85% PHCs in the state. Collection and reporting of vital statistics was exercising only by 42% PHCs.

MADHYA PRADESH

In surveyed PHCs, 92% were functioning in own buildings and in 75% PHCs construction was completed. In 67% & 54% PHCs drinking water and storage facility was available respectively. When we go through the availability of services, in 87% PHCs pharmacy and 83% PHCs adequate medicines was available. However, OPD rooms were in 92%, family welfare clinic in 67%, OT and casualty was available in 42% PHCs. Separate labour room was in 71% PHCs. At the instance of communication facility, in 87% facility electricity was available but it was not 24 hours supply. Communication facility like mobile phone, telephone was available only in 46% facilities. In context of transport facility, it was in very poor condition, and was available in only 17% PHCs.

At the service delivery point, 100% PHCs were providing OPD but 71% were providing IPD services. ANC, PNC and new born care services were available in 83%, 79% & 71% facilities, respectively, and family planning services were getting provided only in 79% PHCs. But AYUSH services were very poor in the state and only 25% PHCs was providing the same. Monitoring & supervision was being done by 100% PHCs in the state. Collection and reporting of vital statistics was being done by 62% PHCs and rehabilitation services were provided by only 21% PHCs.

JHARKHAND

In 20 surveyed PHCs in Jharkhand, 90% were functioning in own buildings and in 55% PHCs construction was completed. In 65% & 35% PHCs drinking water and storage facility was available respectively. When we go through the availability of services, in 85% PHCs pharmacy and 80% PHCs adequate medicines were available. However, OPD rooms were in 95%, family welfare clinic in 50%, OT and casualty was available in only 30% & 40% PHCs respectively. Separate labour room was in 50% PHCs. At the instance of communication facility, in 50% facilities electricity was available but it was not 24 hours supply. Communication facility like

mobile phone, telephone was available only in 50% facilities. In context of transport facility, it was in very poor condition and the same was available in only 25% PHCs.

At the service delivery point, 100% PHCs were providing OPD but only 50% were providing IPD services. ANC, PNC and new born care services were available in 95%, 80% & 70% facilities and family planning services was providing by 70% PHCs. But AYUSH services were very poor in the state and only 10% PHCs were providing the same. Monitoring & supervision was being done at 85% PHCs in the state. Collection and reporting of vital statistics was discerned only in 50% PHCs and rehabilitation services were with only 35% PHCs.

ORISSA

In the 20 surveyed PHCs in Orissa's 5 districts, 85% were functioning in own buildings and in 80% PHCs construction was completed. In 60% PHCs drinking water was available but storage facility was only in 5% facilities. When we go through the availability of services, in 95% PHCs pharmacy and in 50% PHCs adequate medicines were available. However, OPD rooms were in 95%, family welfare clinic in only 25%, OT and casualty was available in only 15% & 10% PHCs respectively. Separate labour room was in 20% PHCs. As far as communication facility in 70% facilities electricity was available but it was not 24 hours supply. Communication facility like mobile phone, telephone, etc. was available only in 20% facilities. In context of transport facility, it seems in good condition and was available with all PHCs.

At the service delivery point, 100% PHCs were providing OPD but only 30% were providing IPD services. ANC, PNC and new born care services were available in 80%, 65% & 35% facilities and family planning services was getting provided by 70% PHCs. AYUSH services were good in the state and 75% PHCs were providing the same. Monitoring & supervision was being done by 90% PHCs in the state. Collection and reporting of vital statistics was reported by 20% PHCs and rehabilitation services from only 20% PHCs.

ASSAM

In 20 surveyed PHCs in Assam, 100% were functioning in own buildings and in 85% PHCs construction was completed. In 80% PHCs drinking water was available but storage facility was only in 70% facilities. When we go through the availability of services, in 100% PHCs pharmacy and 60% PHCs adequate medicines were available but adequate chemical and equipments were available with 30% facilities. However, OPD rooms were in 90%, family welfare clinic in only 45%, OT and casualty was available in only 5% and 20% facilities respectively. Separate labour room was in 45% PHCs. In 95% facilities electricity was available but it was not 24 hours supply. Communication facility like mobile phone, telephone, etc. was available only in 75% facilities. The transport facility was inadequate as it was available with 55% PHCs only.

At the service delivery point, 100% PHCs were providing OPD but only 30% were providing IPD services. ANC, PNC and new born care services were available in 90%, 90% & 45% facilities, respectively and family planning services was getting provided by 95% PHCs. AYUSH services were not good in the state as only 40% PHCs were providing the same. Monitoring & supervision was being done by 80% PHCs in the state. Collection and reporting of vital statistics was being exercised only by 45% PHCs and rehabilitation services were with only 15% PHCs.

JAMMU & KASHMIR

In 20 surveyed PHCs, 85% were functioning in own buildings but in only 25% PHCs construction was completed. In 70% PHCs drinking water and water storage facility was available. When we go through the availability of services, in 90% PHCs pharmacy and in 50% PHCs adequate medicines were available but adequate chemical and equipments were available with 30% facilities. However, OPD rooms were in 90%, family welfare clinic in only 65%, OT and casualty was available in only 15% and 30% facilities, respectively. Separate labour room was in 55% PHCs. The supply of electricity was erratic in the sense that 100% facilities reported that electricity was available but it was not 24 hours supply. Communication facility like mobile phone, telephone, etc. was available only in 10% facilities. The emergency transport facility, it seems was not in good condition as the availability of it was reported with 55% PHCs only.

At the service delivery point, 100% PHCs were providing OPD and 80% were providing IPD services. ANC, PNC and new born care services were available in 95%, 95% & 65% facilities, respectively and family planning services were being provided by 85% PHCs. AYUSH services were almost satisfactory in the state and 65% PHCs were providing the same. Monitoring & supervision was being done by 90% PHCs in the state. Collection and reporting of vital statistics was being done by 100% PHCs and rehabilitation services were reported by only 15% PHCs.

TAMIL NADU

In the 20 surveyed PHCs, 100% were functioning in own buildings and in 90% PHCs construction was completed as per IPHS standards. In 100% PHCs drinking water was available and storage facility was in 85% facilities. When we go through the availability of services, in 100% PHCs pharmacy and 95% PHCs adequate medicines were available. However, OPD rooms were in 100%, family welfare clinics in only 70%, OT and casualty was available in only 5% & 30% PHCs respectively. Separate labour room was in 100% PHCs. Coming to supply of electricity 100% facilities reported availability, but again it was not 24 hours supply. Communication facility like mobile phone, telephone, etc. was available in all the facilities. Coming to transport facility, it was not in good condition as it was available in only 50% PHCs.

At the service delivery point, 100% PHCs were providing IPD as well as OPD services. ANC, PNC and new born care services were available in 95%, 100% & 100% facilities, respectively, and family planning services were being provided by 65% PHCs. AYUSH services were poor in the state and only 15% PHCs were providing the same. Monitoring & supervision was reported by 85% PHCs in the state. Collection and reporting of vital statistics was being exercised in 100% PHCs, but rehabilitation services were getting provided by only 15% PHCs.

Table 3.3: Primary Health Centres & related facilities in different states (Numbers)

States	UP	MP	Jhar	Assam	Orissa	J&K	TN	Total No.	%age
No. of PHCs covered in each selected District	24	24	20	20	20	20	20	148	100
Physical Infrastructure									
Government building	22	22	18	20	17	17	20	136	91.9
Completed construction of buildings	17	18	11	17	16	5	18	102	68.9
Prominent display board in local language	15	17	14	16	16	15	20	113	76.4
Drinking water availability	14	16	13	16	12	14	20	105	70.9
Toilet facility	21	22	12	19	12	17	20	123	83.1
Good cleanliness condition	16	23	19	17	14	15	20	124	83.8

States	UP	MP	Jhar	Assam	Orissa	J&K	TN	Total No.	%age
Availability of Facilities									
Registration Counter	15	14	13	13	7	8	13	83	56.1
Pharmacy	23	21	17	20	19	18	20	138	93.2
OPD room/cubical	21	22	19	18	19	18	20	137	92.6
Family Welfare clinic	15	16	10	9	5	13	14	82	55.4
Casualty/Emergency room	6	10	8	4	2	6	6	42	28.4
Operation Theater	12	10	6	1	3	3	1	36	24.3
Separate Labour Room	11	17	10	9	4	11	20	82	55.4
Adequate equipment and chemical availability	16	16	12	6	6	6	17	79	53.4
Availability of adequate medicines	21	20	16	12	10	10	19	108	73.0
Water Storage facility	14	13	7	14	1	14	17	80	54.1
Availability of electricity	13	21	10	19	14	20	20	117	79.1
Communication facility	5	11	10	15	4	2	20	67	45.3
Transport facility	0	4	5	11	20	11	10	61	41.2
Human Resources									
MO(Allopathic)	18	22	14	18	18	16	19	125	84.5
MO(AYUSH)	12	8	0	8	14	12	1	55	37.2
Pharmacist	19	8	6	17	16	14	19	99	66.9
Nurse/Midwife	9	13	16	17	2	8	14	79	53.4
Female Health Worker	15	15	6	4	9	9	12	70	47.3
Lab Technician	11	7	6	14	2	14	8	62	41.9
Clerks	3	6	12	2	0	3	0	26	17.6
Service Delivery									
OPD services	23	24	20	20	20	20	20	147	99.3
Emergency services	19	14	10	13	10	15	15	96	64.9
Referral services	19	15	10	13	7	14	19	97	65.5
In-patient services	15	17	10	6	6	16	20	90	60.8
Antenatal services	16	20	19	18	16	19	19	127	85.8
Post natal services	19	19	16	18	13	19	20	124	83.8
New born care	19	17	14	9	7	13	20	99	66.9
Child care & Immunization	18	23	18	19	11	19	19	127	85.8
Family Planning	24	19	14	19	14	17	13	120	81.1
Management of RTI/STI	10	15	10	12	12	15	16	90	60.8
Nutrition services	13	10	7	7	10	4	19	70	47.3
School Health Programme	19	24	12	13	10	17	19	114	77.0
Disease surveillance and control of epidemics	18	20	15	17	18	18	20	126	85.1
Collection and reporting of vital statistics	10	15	10	9	4	20	20	88	59.5
AYUSH services	9	6	2	8	15	13	3	56	37.8
Rehabilitation services	7	5	7	3	4	3	3	32	21.6
Monitoring & supervision	16	24	17	16	18	18	17	126	85.1
Monitoring activities of ASHAs	16	22	16	20	20	19	3	116	78.4
MO visit all SCs once in month	20	21	16	18	19	18	20	132	89.2
HA visit all SCs once in week	15	19	15	15	9	11	16	100	67.6

Functioning of Sub Centers

In the Indian health scenario, Sub-Centre (SC) 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.

UTTAR PRADESH

In the State of Uttar Pradesh, we have surveyed 48 SCs as per survey design. Out of the total surveyed SCs 85% have buildings and only 44% were running in own government buildings. In 67% SCs drinking water was available and 48% were with toilet facilities. In only 23% SCs regular electricity and in 27% SCs communication facility was available. Only in 42% cases residential facility was available in the SCs premises.

At the service delivery point, more or less all SCs were providing RCH services like ANC, PNC, New born care etc. ranging from 48-65% SCs, except Mau where not even a single SC was found with the same. Family planning and contraception services were available in 90% of SCs with 100% in Mahoba, Sultanpur and Mau. 50% SCs have reported about availability of adequate medicine all the time. 92% SCs were exercising the immunization services as per government schedule in the state. Only in 35% SC separate labour room was available and 25% SCs were functioning as DOT centres under RNTCP programme and 81% SCs were running any national health programme.

MADHYA PRADESH

In 6 districts of the state of Madhya Pradesh we have surveyed 48 SCs as per our sample design. Out of the total surveyed SCs 85% have buildings but only 58% were running in own government buildings. In 52% SCs drinking water was available and 71% were with toilet facilities. In only 37% SCs regular electricity and in 27% SCs communication facility was available. Only in 54% cases residential facility was available in the SCs premises for the staff.

At the service delivery point, more or less all SCs were providing RCH services like ANC, PNC, New born care, etc. ranging from 70%-90% of the SCs, but in the case of Shivpuri where only one SC was providing the same. Family planning and contraception services were available in 96% of SCs with 100% in all districts except Vidisha. 87% SCs have reported about availability of adequate medicine all time. 98% SCs were exercising the immunization services as per government schedule in the state. 69% SCs were functioning as DOT centre under RNTCP programme and 100% SCs were running any national health programme.

JHARKHAND

In the State of Jharkhand, we have surveyed 39 SCs as one SC was under construction. Out of the total surveyed SCs, 92% have buildings but only 46% was running in own government buildings. In 41% SCs drinking water was available and only 31% were with toilet facilities. In only 23% SCs regular electricity and in 100% SCs communication facility was available. Only in 15% cases residential facility was available in the SCs premises for the staff.

At the service delivery point, more or less all SCs were providing RCH services like ANC, PNC, New born care, etc. were getting provided in more than 90% SCs, but in case of new born care only 64% were providing the same and in Giridih district only one SC was proving this facility. Family planning and contraception services were available in 92% of SCs. 67% SCs have reported availability of adequate medicines all the time. 100% SCs were exercising the

immunization services as per government schedule in the state. 64 SCs were functioning as DOT centre under RNTCP programme and 95% SCs were running some component of the national health programme.

ORISSA

In the State of Orissa, we have surveyed 39 SCs. Out of the total surveyed SCs 100% have buildings but only 38% were running in own government buildings. In only 54% SCs drinking water was available and only 23% were with toilet facilities. In only 31% SCs regular electricity and in only 15% SCs communication facility was available. In 36% SCs residential facility was available in the SCs premises for the staff.

At the service delivery point, more or less all SCs were providing RCH services like ANC, PNC, New born care, etc.; in more than 80% SCs but in case of new born care only 69% were providing the same and in Bolangir district only one SC was proving this facility. Family planning and contraception services were available in 95% of SCs. 90% SCs have reported availability of adequate medicines all the time. 100% SCs were exercising the immunization services as per government schedule in the state. 72% SCs were functioning as DOT centres under RNTCP programme and 97% SCs were running some component of the national health programme.

ASSAM

In the State of Assam, we have surveyed 40 SCs. Out of the total surveyed SCs 82.5% have buildings but only 45% were running in own government buildings. In only 57.5% SCs drinking water was available and only 55% were with toilet facilities. In only 42.5% SCs regular electricity and in only 7.5% SCs communication facility was available. In 30% SCs residential facility was available in the SCs premises for the staff.

At the service delivery point, more or less all SCs were providing RCH services like PNC. However, only 25% & 68% of SCs were providing the New Born Care & ANC respectively and surprisingly, in Dibrugarh district not even once SC reported provisioning of this facility. Family planning and contraception services were available in 100% of SCs. 87.5% SCs have reported availability of adequate medicines all the time. 100% SCs have reported exercising the immunization services as per government schedule in the state. 60% SCs were functioning as DOT centres under RNTCP programme and 97.5% SCs were running any national health programme.

JAMMU & KASHMIR

In the State of Jammu & Kashmir, we have surveyed 40 SCs. Out of the total surveyed SCs 100% have buildings but only 30% were running in own government buildings. In only 50% SCs drinking water as well as toilet facility was available. In only 45% SCs regular electricity and in only 7.5% SCs communication facility was available. In 7.5% SCs residential facility was available in the SCs premises for the staff.

At the service delivery point, 50%-90% SCs were providing RCH services like ANC, PNC, New born care, etc. i.e. in more than 50% SCs, were providing services. Further, ANC was being provided only in 50% SCs. Family planning and contraception services were available in almost 95% of SCs. 73% SCs have reported availability of adequate medicines all the time. 100% SCs were found to be providing the immunization services as per government schedule in

the state. 98% SCs were functioning as DOT centres under RNTCP programme and were running some component of the national health programme.

TAMIL NADU

In the State of Tamil Nadu, we have surveyed 40 SCs. Out of the total surveyed SCs 95% have buildings but only 67% was running in own government buildings. In only 70% SCs drinking water was available and only 82.5% were with toilet facilities. In only 82% SCs regular electricity and in only 77% SCs communication facility was available. In 55% SCs residential facility was available in the SCs premises for the staff.

At the service delivery point, more or less all SCs were providing RCH services like ANC, PNC, New born care, etc. These services were reported by more than 97.5% SCs but in case of new born care only 40% were providing the same. Family planning and contraception services were available in 95% of SCs. 97.5% SCs have reported availability of adequate medicines all the time. 100% SCs were providing the immunization services as per government schedule in the state. 92.5% SCs were functioning as DOT centres under RNTCP programme and 100% SCs were found to be running with some component of the national health programme.

Table 3.4: Sub Centres Facilities in Different States (Numbers)

States	UP	MP	Jhar	Assam	Orissa	J&K	TN	Total No.	%age
No of SCs covered in each selected district	48	48	39	40	39	40	40	294	100
Infrastructure									
Having buildings	41	41	36	33	39	40	38	268	91.2
Having govt. building	21	28	18	18	15	12	27	139	47.3
With good condition of the buildings	22	25	16	24	9	12	25	133	45.2
With prominent display board in local language	19	24	28	24	12	25	31	163	55.4
With separate labour room	17	20	3	9	9	5	27	90	30.6
With availability of drinking water	32	25	16	23	21	20	28	165	56.1
With availability of toilets	23	34	12	22	9	20	33	153	52.0
With availability of regular electricity	11	18	9	17	12	18	33	118	40.1
With communication facilities	13	13	39	3	6	3	31	108	36.7
With residential facility for staff	20	26	6	12	14	3	22	103	35.0
Human Resources									
ANM	46	48	39	32	38	34	40	277	94.2
Male Health Worker	10	48	11	5	24	23	12	133	45.2
Part time attendant (female)	17	12	3	22	2	8	17	81	27.6
Cleaners	4	3	5	1	0	19	3	35	11.9
ASHA		48	38	32	39	39	0	196	66.7
Service Availability									
ANC services	31	43	36	27	32	20	39	228	77.6
PNC services	23	37	37	38	38	34	39	246	83.7
New born care	25	34	25	10	27	36	16	173	58.8
Child care including immunization	41	46	36	40	39	40	26	268	91.2
Family planning and contraception	43	46	36	40	37	38	38	278	94.6

States	UP	MP	Jhar	Assam	Orissa	J&K	TN	Total No.	%age
Adolescent health care	37	41	37	33	32	32	39	251	85.4
Treatment of minor ailments	35	41	36	35	34	40	40	261	88.8
Adequate amount of medicine available all time	24	42	26	35	35	29	39	230	78.2
24 hours facility of referral services for complicated cases	13	19	10	12	19	12	36	121	41.2
Immunization services as per government schedule	44	47	39	40	39	40	40	289	98.3
Contraceptive services	42	47	39	39	38	39	40	284	96.6
As a DOT centre	12	33	25	24	28	39	37	198	67.3
Treatment of diarrhea and dehydration	35	45	38	32	37	38	26	251	85.4
Running any national health programme	39	48	37	39	38	39	40	280	95.2

Functioning of Accredited Social Health Activists (ASHAs)

Under NRHM introduction of ASHA as a link between the community and the rural health system was to motivate and help vulnerable sections like poor, women and children, to improve their accessibility to the basic health services at the time of their need. The facility survey elicited information about functioning of ASHAs in the selected villages through structured schedule as well as focus group discussions to highlight their knowledge and awareness about their roles and responsibilities under the programme. Functioning of ASHAs in the seven states are discussed in the following sections.

UTTAR PRADESH

In 48 selected villages in the state of Uttar Pradesh as per our sample design we interviewed 75 ASHAs to elicit their perceptions about their roles and responsibilities and co-operation efforts with other supporting bodies for the betterment of health. Out of the total interviewed ASHAs 83% were staying in the serving village with 100% in Mathura. 96% of them have reported about creating awareness and other related H&FW programme and 97% ASHAs were timely providing services to the people. 83% was with drug kit at the time of survey and 84% was providing common medicine to the people but only 45% has reported about common medicines available all time in the kit.

Almost all the ASHAs (99%) have got training but only 72% have got TA/DA during training. 31% ASHAs have told about they have got any kind of incentives and only 92% got money in advance for providing services in emergency. Co-ordination with other bodies show that 51% ASHA is working with VHSC committee and 40% is participating in preparation of VHP. 84% has reported that they are helping ANM/AWW in different health and nutrition related programmes and it is 100% in the case of Mathura and Sultanpur but only 12% have interacted with SHGs in the state. 85% have told about maintaining village health register and 53% told about organizing VHND in the village.

MADHYA PRADESH

Out of 46 ASHAs selected for interviews only 100% were staying in the serving village however it is criteria to live in serving village. 98% of them have reported about creating

awareness and other related H&FW programme and 100% ASHAs were timely providing services to the people. 91% was with drug kit at the time of survey and nearly 96% was providing common medicine to the people but only 65% has reported about common medicines available all time in the kit.

Almost all ASHAs (98%) have got training and almost all (96%) have got TA/DA during training. 93% ASHAs have told about they have got any kind of incentives and 11% got money in advance for providing services in emergency. Co-ordination with other bodies show that 83% ASHA is working with VHSC committee and 63% is participating in preparation of VHP. 100% has reported that they are helping ANM/AWW in different health and nutrition related programmes and it is 100% but only 30% have interacted with SHGs in the state. 87% have told about maintaining village health register and 56% told about organizing VHND in the village.

JHARKHAND

In Jharkhand, an alternate name devised for ASHA is *Sahiya*. Thus, 50 *Sahiyas* have been interviewed regarding their roles, responsibilities and co-operation with other supporting bodies for the betterment of health. Out of the total interviewed *Sahiyas* almost all are staying in the serving villages however it is criteria to live in serving village. 82% of them have reported about creating awareness and other related H&FW programme and all 100% were timely providing services to the people. Only 38% was with drug kit at the time of survey and nearly 42% was providing common medicine to the people but only 68% has reported about common medicines available all time in the kit.

Almost all *Sahiyas* (98%) have got training and 54% have got TA/DA during training. 50% *Sahiyas* have told about they have got any kind of incentives and 2% got money in advance for providing services in emergency. Co-ordination with other bodies' show that 76% *Sahiyas* are working with VHSC committee and 44% are participating in preparation of VHP. 94% has reported that they are helping ANM/AWW in different health and nutrition related programmes and only 10% have interacted with SHGs in the state. 68% have told about maintaining village health register and only 28% told about organizing VHND in the village.

ORISSA

In Orissa, 47 ASHAs have been interviewed regarding their roles, responsibilities and co-operation with other supporting bodies for the betterment of health. Out of the total interviewed ASHAs, 100% were residing in the serving villages however it is criteria to live in serving village. 98% of them have reported about creating awareness and other related H&FW programme and all 100% were timely providing services to the people and almost all was with drug kit at the time of survey and nearly 94% was providing common medicine to the people and all 57% has reported about common medicines available all time in the kit.

All ASHAs have got training and 94% have got TA/DA during training. 91% ASHAs have told about they have got any kind of incentives and none of them got money in advance for providing services in emergency. Co-ordination with other bodies' show that 87% ASHAs are working with VHSC committee and 70% are participating in preparation of VHP. 100% has reported that they are helping ANM/AWW in different health and nutrition related programmes and only 30% have interacted with SHGs in the state. 91% have told about maintaining village health register and only 76% told about organizing VHND in the village.

ASSAM

In Assam, 47 ASHAs/*Sahiyas* have been interviewed regarding their roles, responsibilities and co-operation with other supporting bodies for the betterment of health. Out of the total interviewed ASHAs, 100% were residing in the serving villages however it is criteria to live in serving village. 100% of them have reported about creating awareness and other related H&FW programme and all 100% were timely providing services to the people and almost all was with drug kit at the time of survey and nearly 98% was providing common medicine to the people and nearly 49% has reported about common medicines available all time in the kit.

All ASHAs have been trained and 98% have got TA/DA during training. 100% ASHAs have reported about being provided with the incentives and none of them got money in advance for providing services in emergency. Co-ordination with other bodies' show that 100% ASHAs are working with VHSC committee and 85% are participating in preparation of VHP. 100% has reported that they are helping ANM/AWW in different health and nutrition related programmes and only 17% have interacted with SHGs in the state. 87% have told about maintaining village health register and only 53% told about organizing VHND in the village.

JAMMU & KASHMIR

In Jammu and Kashmir, 42 ASHAs have been interviewed regarding their roles, responsibilities and co-operation with other supporting bodies for the betterment of health. Out of the total interviewed ASHAs, 100% were residing in the serving villages, whereas the criterion of selection was to belong to the serving village. 88% of them have reported about creating awareness and other related H&FW programme and all 100% were timely providing services to the people and 90% was with drug kit at the time of survey but only 74% was providing common medicine to the people and nearly 12% has reported about common medicines available all time in the kit.

All ASHAs have got training and 74% have got TA/DA during training. 98% ASHAs have told about they have got any kind of incentives and only 2% got money in advance for providing services in emergency. Co-ordination with other bodies' show that 55% ASHAs are working with VHSC committee but only 36% is participating in preparation of VHP. 100% has reported that they are helping ANM/AWW in different health and nutrition related programmes and no one has interacted with SHGs in the state. 74% have told about maintaining village health register and same has told about organizing VHND in the village.

TAMIL NADU

In Tamil Nadu the ASHA scheme has not been implemented till date. While interacting with the Health Mission senior officials in Chennai it was discerned that the traditional system of Village Health Nurses (VHNs) in villages is working quite effectively. However, during discussion on incentives to VHNs by redesignate them as ASHAs under NRHM, where we have provisions of payments for supporting the health care program in the State, can bring around improvements in the delivery care performance. However, possibility of their qualifying with the ASHA criterions could create problems for some and thus needs some changes in the procedures. However, the ASHA scheme till the survey dates was not functioning in the state of Tamil Nadu.

Table 3.5: Accredited Social Health Activist in different states (Numbers)

States	UP	MP	Jhar	Assam	Orissa	J&K	Total No.	%age
No of ASHAs covered in each selected district	75	46	50	47	47	42	307	100
Staying in the serving village	62	46	49	47	47	42	293	95.4
receiving any kind of compensation/incentives	23	43	25	47	43	41	222	72.3
got money in advance for providing services in emergency	69	5	1	0	0	1	76	24.8
creating awareness and other related H&FW programme	72	45	41	47	46	37	288	93.8
ever contacted with deprived section of the society	41	30	39	32	23	10	175	57.0
able to provide timely services to people	73	46	50	47	47	42	305	99.3
received drug kit	62	42	19	44	46	38	251	81.8
provide common medicines to patient in need	63	44	21	46	44	31	249	81.1
common medicines available all times in the kit	34	30	34	23	27	5	153	49.8
undergone any training programme	74	45	49	47	47	42	304	99.0
got TA/DA during training	54	44	27	46	44	31	246	80.1
got TA/DA while called to attend/participate in monthly/bi-monthly meetings	28	32	20	31	35	2	148	48.2
ASHAs co-ordination with other bodies								
working with VHSC/RCH committee	38	38	38	47	41	23	225	73.3
role in preparing Village Health Plan	30	29	22	40	33	15	169	55.0
co-ordination with Gram-Panchayat	43	32	13	33	27	7	155	50.5
helping ANM/AWW	63	46	47	47	47	42	292	95.1
meeting with ANM/AWW	64	44	47	47	47	42	291	94.8
interaction with any SHG	9	14	5	8	14	0	50	16.3
attend meeting in village related to women/health/panchayats/others	47	40	30	44	36	38	235	76.5
maintain Register for Village Health	64	40	34	41	43	31	253	82.4
organize Village Health & nutrition day	40	26	14	25	36	31	172	56.0
monthly meeting at PHC level	32	28	31	32	47	32	202	65.8

Functioning of Village Health & Sanitation Committees

The NRHM visualize the provision of decentralized health care at grass root level and for this involvement of Panchayati Raj Institutions was considered to be important. An institutional arrangement of constituting Village Health and Sanitation Committees (VHSCs) under the headship of Gram Panchayat (GP) was considered important by involving elected GP members in VHSCs for monitoring and implementation of health services at the village level and try to improve the health facility with the slogan “people health in their hands”. For see the progress at community level and their perception about the same, all GPs of sampled villages were interviewed. Information from GP members was elicited by canvassing a structured GP village schedule.

UTTAR PRADESH

In Uttar Pradesh about 41 Gram Panchayat (GP) members were interviewed in the selected districts. Their opinion and perception about existing facilities and services, all 100% have told about existence of VHSC in the village but only 12% have reported facility of PHCs in their villages but 95% have told about existence of SCs in their villages and only 29% have reported the facility of night stay in the SCs. Further, 63% of the villagers are satisfied with the services of PHCs/SCs. However VHSC is working under NRHM but it is not playing its roles properly, only 44% VHSCs are involved in preparing any Village Health Plan (VHP) and get consulted over the issues/problems related to village level health & nutrition. Only 20% GPs have told that they are maintaining any village health calendar.

Regarding availability of common health & sanitation facilities in village, 90% GPs have reported availability of safe drinking water in the village and only 15% have reported availability of community toilets in the village. In 63% village sanitation is good. 71% VHSCs have received untied funds and 27% have reported about facing problems in the implementation. 80% are satisfied with the implementation and progress of NRHM.

MADHYA PRADESH

In Madhya Pradesh, 39 GP members have been interviewed in the selected districts for evaluation. Their opinion and perception about existing facilities and services reveal that 95% reported about the existence of VHSC in their village but only 10% have reported existence of PHCs in their villages, but 100% have reported the existence of SCs in their villages and nearly 70% have mentioned about night stay facility in the SCs. Further, 85-90% of the villagers are satisfied with the services of PHCs/SCs. However VHSC is working under NRHM but it is not playing its roles properly, nearly 72% VHSCs are involved in preparing any VHP and 69% analysis of issues/problems related to village level health & nutrition. 21% GP members have reported that they are maintaining village health calendar.

Regarding availability of common health & sanitation facilities in village, 95% GP members have reported the availability of safe drinking in their villages but only 8% have reported availability of community toilets in their villages. In only 51% village sanitation is in good condition. 51% VHSCs have received untied funds and only 23% have reported about facing problems in the implementation of health related programme under NRHM. Out of total interviewed GP members, 90% have reported satisfaction regarding implementation and progress of NRHM.

JHARKHAND

In Jharkhand state, 26 GP members have been interviewed in the selected districts for evaluation. Only 8% of them reported existence of VHSC in the village but only 19% have reported existence of PHCs in their villages and 96% have reported about existence of SCs in their villages. Further, only 19% of them reported night stay facility in the SCs. 85% of the respondents are satisfied with the services of PHCs/SCs. However VHSC is working under NRHM but it is not playing its roles properly, only 31% VHSCs are involved in preparing any VHP and 31% analysis of the issues/problems related to village level health & nutrition and only 4% GP members have reported maintenance of any village health calendar. The results show very poor performance in the state.

Regarding availability of common health & sanitation facilities in villages, 92% GP members reported availability of safe drinking in their villages but no community toilets in the villages. In only 27% villages' sanitation is in good condition. 35% VHSC has received untied funds and only 19% have reported about facing problems in the implementation of health related programme under NRHM. Out of total interviewed GP, 77% has told about satisfaction regarding implementation and progress of NRHM.

ORISSA

In Orissa state, 39 GP members have been interviewed in the selected districts for functioning of VHSCs. Their opinion and perception about existing facilities and services, no one has told about existence of VHSC in the village and only 10% have told existence of PHCs in their villages and 97% mentioned about existence of SCs in their villages. Further, only 31% reported facility of night stay facility in the SCs. 67% & 92% of the villagers are satisfied with the services of PHCs/SCs. However VHSC is working under NRHM but it is not playing its roles properly, only 49% VHSCs are involved in preparing VHP and 33% analysis of the issues/problems related to village level health & nutrition and only 3% GP members reported that they are maintaining any village health calendar.

Regarding availability of common health & sanitation facilities in village, 100% GP has told about safe drinking and there are no community toilets in the village. In only 51% village sanitation is in good condition. 56% VHSC has received untied funds and only 21% have reported about facing problems in the implementation of health related programme under NRHM. Out of total interviewed GP, 85% has told about satisfaction regarding implementation and progress of NRHM.

ASSAM

In Assam state, 40 GP members have been interviewed in the selected districts for evaluation of functioning of VHSCs. Their opinion and perception about existing facilities and services, no one has reported existence of VHSC in the village and only 15% have mentioned existence of PHCs in their villages and 97% have told about existence of SCs in their villages. Further, only 22.5% reported night stay facility in the SCs. More than 65% of the villagers are satisfied with the services of PHCs/SCs. However VHSC is working under NRHM but it is not playing its roles properly in many surveyed districts of the different states but in the case of Assam about 85% GPs has reported about preparing any VHP and 20% analyze the issues/problems related to village level health & nutrition and only 5% GP has told that they are maintaining any village health calendar.

Regarding availability of common health & sanitation facilities in village, 100% GPs has told about safe drinking and there are no community toilets in the village and no one has reported about sanitation is in good condition. 95% VHSC has received untied funds and only 27% have reported about facing problems in the implementation of health related programme under NRHM. Out of total interviewed GP, 95% has told about satisfaction regarding implementation and progress of NRHM.

JAMMU & KASHMIR

In Jammu & Kashmir state, 38 GP members have been interviewed in the selected districts. No one has reported about existence of VHSC in the village and only 5% have reported existence of PHCs in their villages and 97% have reported existence of SCs in their villages. Further, only 16% members reported night stay facility in their SCs. More than 60% of the villagers are satisfied with the services of PHCs/SCs. However VHSC is working under NRHM but it is not playing its roles properly in many surveyed districts in Jammu & Kashmir only 26% GPs has reported about preparing any VHP and 13% analyze the issues/problems related to village level health & nutrition and no one GP has told that they are maintaining any village health calendar. The results show poor performance in the state.

Regarding availability of common health & sanitation facilities in village, 95% GPs has told about safe drinking and there is 3% community toilets in the village and only 13% has reported about sanitation is in good condition. 37% VHSC has received untied funds and only 45% have reported about facing problems in the implementation of health related programme under NRHM. Out of total interviewed GP, 58% has told about satisfaction regarding implementation and progress of NRHM.

TAMIL NADU

In Tamilnadu state, 37 GP members have been interviewed in the selected districts for evaluation of functioning of VHSCs. Their opinion and perception about existing facilities and services reveals that no one has reported the existence of VHSC in the village and only 13% have reported existence of PHCs in their villages. Further, 97% have reported existence of SCs in their villages and in only 35% cases there is night stay facility in the SCs. More than 75% of the villagers are satisfied with the services of PHCs/SCs. Interestingly, 87% VHSCs are involved in preparation of their VHPs and 56% had reported about analyzing the issues/problems related to village level health & nutrition and only 49% GP have reported that they are maintaining any village health calendar. The results show active involvement of VHSCs in controlling the health care services in the villages.

Regarding availability of common health & sanitation facilities in village, 100% GP has told about safe drinking and there are in 70% village community toilets have found. In 81% village sanitation is in good condition. 97% VHSC has received untied funds and only 24% have reported about facing problems in the implementation of health related programme under NRHM. Out of total interviewed GP, 92% have reported satisfaction regarding implementation and progress of NRHM.

Table 3.6: Village Health & Sanitation Committee in different states (Numbers)

States	UP	MP	Jhar	Orissa	Assam	J & K	TN	Total No.	% age
Numbers	41	39	26	39	40	38	37	260	100
Opinion regarding services									
Existence of any PHC in village	5	4	5	4	6	2	5	31	12
Existence of any SC in village	39	39	25	38	39	37	36	253	97
SC provide timely services to patients	28	37	24	37	39	35	37	237	91
PHC provide timely services to patients	27	33	23	36	39	32	33	223	86
Villagers are satisfied by services of SC	26	37	22	36	36	33	36	226	87
Villagers are satisfied by services of PHC	26	33	22	26	27	24	28	186	72
Night stay facility in SC	12	27	5	12	9	6	13	84	32
Night stay facility in PHC	17	33	15	13	12	8	15	113	43
Villagers got free services/medicines from SC	26	33	18	36	31	25	28	197	76
Villagers got free services/medicines from PHC	24	33	17	37	29	15	28	183	70
Roles/Responsibilities									
is working under NRHM	30	34	20	34	40	37	35	230	88
maintain any VHP	18	28	8	19	34	10	32	149	57
discuss VHP with villagers	23	28	12	28	28	13	23	155	60
analyze key issues/problems related to village level health & nutrition	18	27	8	13	8	5	21	100	38
maintain any village health calendar	8	8	1	1	2	0	18	38	15
Meeting/Record keeping									
maintain any village health register	25	27	8	29	27	9	34	159	61
have any demographic data of the village	13	20	6	14	10	4	22	89	34
maintain infant and maternal audit	17	12	5	7	2	3	21	67	26
have record of ANM	20	22	5	32	10	20	18	127	49
organize regular meetings	28	22	13	8	32	31	32	166	64
maintain records of meeting organized	27	0	13	20	37	23	28	148	57
Roles in providing common facilities									
Safe drinking water in village	37	37	24	39	40	36	37	250	96
community toilets in village	6	3	0	0	0	1	26	36	14
Good status of village sanitation	26	20	7	20	0	5	30	108	42
VHSC has provision of jan samwad/ dialogue	18	15	3	15	5	1	15	72	28
Proper connectivity to SC/PHC/CHC	36	36	25	22	34	38	33	224	86
Communication facilities in village	34	23	9	13	34	25	31	169	65
Grant/Aid									
VHSC receives untied funds from government	29	20	9	22	38	14	36	168	65
VHSC facing any problem in implementation of NRHM	11	9	5	8	11	17	9	70	27
VHSC satisfied with progress and implementation of NRHM	33	35	20	33	38	22	34	215	83

Chapter 4

Household Survey

Introduction

An important objective of the present study was to assess the availability, adequacy and utilization of health services in the rural areas, the role played by ASHAs, AYUSH in creating awareness of health, nutrition, sanitation and hygiene among the rural population and to identify the constraints and catalyst in the implementation of the NRHM. The study has evaluated the NRHM Programme and its crucial components towards service delivery in 7 states of India viz. Uttar Pradesh, Madhya Pradesh, Jharkhand, Orissa, J&K, Assam and Tamilnadu. The first six states have been classified as High Focus States and the last one viz. Tamil Nadu as Non-high Focus state as per classification in the NRHM documents for prioritisation and focussed action plan and strategies toward improvement in the outreach of health services keeping the objective of alleviating regional disparities in terms of health infrastructure and services.

The district specific sample design, for the 37 districts under the purview of the present study, envisaged selection of District Hospital, Two CHCs covered under the selected DH, 4 PHCs with 2 PHCs under each of the selected CHC, 8 SCs with 2 SCs under each of the selected PHC. Thus, 8 SCs got selected in each district and selection of each facility was done under circular system sampling procedure with implicit stratification criterion of distance of sub-facilities from the main selected facility to provide representative sample of different level facilities in all the 37 districts.

Thereby, selection of 8 villages under 8 SCs was to facilitate purposive selection 25 households with the objective criterion of selection of at least households having respondents under each of the following five categories viz. pregnant women, lactating women with new born children of less than one year, five women with children between 1-5 years, five respondents suffering from chronic diseases, and five women using contraception. Thus, the design facilitated selection of 7,400 households from 296 villages belonging to 296 sub-centres with 148 selected PHCs selected within 74 selected CHCs within 37 District Hospitals in 37 districts in the 7 designated states under the purview of the present study. Facility survey of all the DHs, CHCs, PHCs, and SCs was conducted by canvassing structured schedules with the concerned officials in the selected facilities. In addition we had held focussed group discussions with ANMs and ASHAs, in-depth interviews with District Health Mission officials, Chief Medical Officers and Medical Superintendents. The structured schedules were also canvassed with AYUSH doctors and Gram Panchayat members. The household schedules were canvassed in the selected households in all the 37 districts under the purview of the study.

The household schedule comprised main sections including socio-economic and demographic characteristics of members of the household, details about utilization of ANC by the pregnant women, utilization of the delivery and post-natal care for children aged 0-5 years, utilization of immunization services for children aged 1-5 years, details of Chronic Diseases and Illness and treatment sought by the family members in the households during three months prior to the survey. Additionally information was elicited over benefits of Janani Suraksha Yojana (JSY), sources of health services, etc. in the surveyed villages. Further, we gathered information about awareness about NRHM, ASHA, JSY and existence of VHSC etc. and also client's satisfaction with the health services. Additionally, details about consumption of food items in the households, inventories and conveniences like toilet, water etc. was also elicited from the

households. It may be of interest to mention that in Tamil Nadu the field team found that still ASHA was not in place in the villages, so the ASHA's questionnaire was canvassed with Auxiliary Nurse Midwives (ANMs) at the SC level in the villages in Tamil Nadu and the relevant information has been utilized for the analysis.

Background Characteristics of the Respondents

Background characteristics of 7400 selected households from 37 districts stretched over the 7 states are presented in Table 4.1. Thus, overall information from the eligible respondents have been collected from 7400 households from 296 villages scattered over 7 states and 37 districts under the purview of the present study. The field team collected information from 1200 households in each of two larger states viz. Uttar Pradesh and Madhya Pradesh and for 1000 households each in rest of the five states viz. Jharkhand, Orissa, Assam, Jammu and Kashmir, and Tamil Nadu.

Perusal of Table 4.1 reveals that around 96.8 percent of the household are headed by males whereas only 3.2 percent are female headed households. Interstate variations, amongst the selected 7 states, range from 92 percent male headed households in UP to 99 percent in Tamil Nadu and J&K. When we go through social categorisation, around 40% belong from other backward classes (OBC) varying from just 19 percent in J&K to 58% in Tamil Nadu. Overall proportionate households in SC/ST category turns out to be 34.6 percent varying from around 19.9% in J&K to 51.4% in Jharkhand. Further, tribal proportionate population in total households turns out to be 14.2 percent ranging from just 1.2% in Tamil Nadu to 32.3% in Jharkhand followed by 27.7% in Orissa. Except in the state of J&K, all surveyed states have more than 90 percent of households respondents were Hindu excluding Assam where 72 percent were Hindu and 27% were Muslims, whereas in J&K around 50.5 percent were Muslims and 48.8 percent were Hindu. Although, most of the respondents are living in nuclear family but its percentage is highest in southern state viz. Tamil Nadu (approx. 84%), whereas in case of northern states the nuclear family system ranges between 60-70%, and in case of joint family system proportionate joint families was highest in Assam (40.5%) followed by most populous state like Uttar Pradesh (38.3%).

Majority of the households are 1-5 members' households. Around 76% of the households pertain to 1-5 members' household categories whereas 6-10 members' households are around 24 percent with only 0.5% households having more than 10 members. Joint family system or 6-10 members' households are maximum in UP and minimum in Tamil Nadu. More than 10 members' households families it was discerned that UP had the highest percentage of 2.5 whereas not even a single such large sized households was reported in Orissa, J&K and Tamilnadu.

Overall about 36% of households reported total annual income less than 25 thousand rupees and around 16 percent households reported the income to be over 50,000 rupees. Interstate variations in proportionate households reporting annual income less than 25,000 rupees was found from 7.6 percent in J&K and 46.4 percent in Orissa. Overall poorer households were found to be more in states of UP, MP, Jharkhand and Orissa. It is well known that in developing countries like India the dependency ratio is relatively much higher and in case of the surveyed states, nearly 90% households reported only one earning member. In only 2.2% cases earning member was 3 or more, however in case of UP it was around 5 percent and in J&K and Tamil Nadu it was less than one percent.

Overall percentage of households with only one child aged less than 5 years turns around 68 percent with obviously higher percentages in low fertility states like Tamil Nadu (74%) and lowest in high fertility state like UP (60%). Similarly households with more than 3 children aged less than 5 years are higher in high fertility states like UP and MP and lower in low fertility states like Tamil Nadu and Orissa.

MCH Care, Family Planning Services Utilization Patterns and Chronic Diseases

ANTENATAL CARE UTILIZATION PATTERNS

Information on utilization of antenatal care has been elicited from 1584 pregnant women. Table 4.3 shows that hardly 8.8 of pregnant women had registered within first trimester, whereas majority of pregnant women got registered between 3-6 months (46%) and 7-9 months (45%). However, 78 percent of the pregnant women have reported utilization of any of the antenatal care services. Majority of the antenatal checkups are being reported to be done either at Sub-centres (SCs) or Primary Health Centres (PHCs). Hardly around 9% pregnant women reported utilization of antenatal checkups at CHCs or DHs. Further, only 5% of the pregnant women have reported utilization of private doctors or health facilities for the ANC checkups. Patterns of utilization seem to be similar in almost all the seven states under the purview of the study.

Overall checkups under antenatal care program amongst pregnant women seems to be satisfactory as far as blood pressure, weight and urine check ups are concerned but quite low as far as blood-check ups are concerned. It is interesting to note that blood check-ups are reported to be relatively much higher in states like Uttar Pradesh (31.7%) and Madhya Pradesh (15.6%) and is reported to be quite low (less than 2%) in almost all the other five states. Reporting of different checkups under ANC services like BP, height, weight and urine have been reported to be satisfactory. Further, around 93 % of pregnant women have reported being vaccinated with Anti-Tetanus vaccine and it was 100% in case of J&K and more than 90% in case of remaining states except Uttar Pradesh (79.8%). Counselling by ASHA/ANM on other important components linked with pregnancy like diet, exercise and precautions during pregnancy is reported to be quite good and satisfactory in all the seven states.

DELIVERY CARE UTILIZATION PATTERNS

Delivery care utilization information has been elicited from 6326 mothers during birth of their youngest child during last five years. The type of delivery reported by the mothers comprised of 95.8% as normal deliveries with only 4.2 percent as complicated/Caesarean. The Caesarean deliveries reported by the mothers appear to be on the lower side as per normal expectations. However, proportional deliveries under the Caesarean category was reported to be around 12.2 percent in Tamil Nadu, whereas such reported proportions were less than 5% in all the other five states and was just around 1 percent in J&K. However, reporting of the type of delivery for the youngest child born during last years has been utilized for bivariate and multivariate analysis in the study under the presumption that the information would be more reliable. Around 29.4 percent of the babies born during last five years have not even been weighed. Around 45 % of the newborn children during last five years were reported to be underweight being less than 2.5 kilograms.

POSTNATAL CARE UTILIZATION PATTERNS

Information on utilization of postnatal care (PNC) (Table 4.4) was elicited from 4747 mothers after the birth of their youngest child during last five years. Only 49.4 percent of the mothers reported utilization of the PNC services with 34.2% availing the facilities at SCs, 28.7% at PHCs, 24.6% from CHCs and around 7% from DHs. Only 5.6 percent of the mothers have reported utilization of PNC services from the private health professionals or facilities. Almost all (95.2%) have reported utilization of the PNC services at public health facilities and further viewed the public health services for PNC to be satisfactory.

Maximum utilization of the PNC services have been reported in Tamil Nadu (90.8%) and minimum in J&K (30.8%). However, the extent of utilization of PNC services have not picked up to the desired or satisfactory levels in most of the states during last five years.

Miscarriages or abortions reported by the women during last year turned out to be only 41, which by any norms does not seem to be accurate. Further, probing on the reasons for the miscarriage/abortion elicited main reason being weakness. However, eliciting data on abortions or miscarriages and reasons thereby needs in-depth or proper probing questions for getting reliable data on such sensitive issues.

IMMUNIZATION AND CHILD CARE

In surveyed states, information from mothers of 6270 children aged 0-5 years was elicited pertaining to immunization of children (Table 4.5). Almost 99 percent of the children were administered with BCG. More than 90% children were reported to be immunized with three vaccinations for DPT and Polio. However, immunization with vaccines of Measles was reported to be only for 61.4 % of the children and administration of Hepatitis was reported to quite low i.e. only 9.7%. Out of total vaccinated, 83% mothers reported to be having immunization cards for the children. Utilization of the immunization services for children has been mostly at Sub-centers (67.7%) or Primary Health Centers (8.9%). However, around 21% of the children were reported to be vaccinated by ANMs. Thus, more than 70% of children in almost all the states seem to have been vaccinated at SCs/PHCs.

In all the surveyed households' only 41 cases of Polio amongst children aged 0-5 got reported, out of which 24 were in Tamil Nadu and 9 in Uttar Pradesh. Even the use of bed-net for avoidance of the mosquito-bite regularly was reported only for 33 percent of the children less than 5 years of age. Distribution of children by duration of breastfeeding reveals that around 20 percent of children were put on exclusive breast feeding for initial four months, another 54 percent up till six months and another 27 percent for period extending beyond six months. Breast feeding in almost universal as 99 percent of the children were breast fed and as norms the study team find around 80 percent of children in rural areas are breast fed for six months after their birth.

UTILIZATION OF FAMILY PLANNING SERVICES

Information on family planning methods used has been elicited from 7042 eligible couples from households covered under the study. The information pertains to type of method, who motivated for the use, source of acquiring the methods, problems during the usage, reasons for not using, etc. Perusal of Table -4.6 reveals that more than half (56%) of the respondents were using different family planning methods with most of them using condom (41.5%), female sterilization (27.4%), oral pills (22.9%), and others using IUD and other traditional methods like

withdrawal, abstinence or safe period, etc. In case of Tamil Nadu 58.1% women were using female sterilization, 25% were using IUD/Copper-T/Loop and 8% was utilizing oral pills and condoms, but in case of high focus states most of the people were using condoms/ oral pills as contraceptives. In case of J&K only 9% women were sterilized and in UP its percentage was 23.4%. Most of them were getting methods from govt. health facilities and health personals. 44% of couple (3102) were not using any method and nearly three-fourth of them has stated reason for not use as want another child and of which 29% want within a year and 48% wants within one to two years.

CHRONIC DISEASES

Prevalence of chronic diseased was reported by around 1566 individuals in the 7400 surveyed households (Table 4.7). Distribution of the suffering persons by disease reveals that around 34 percent were reported to be suffering from Tuberculosis (TB) and around 5 percent from Leprosy. Incidence of TB turns out to be minimum in UP and maximum in Orissa and Jharkhand. It may be noted that around 53 percent of the persons suffering from the chronic diseases have been classified under the category of others. Since no separate category of persons suffering from Diabetics, Blood-Pressure, pains including backache, stomach, arthritis, etc. were initially mentioned in the survey instruments and thus most of respondents suffering from such ailments got classified under the category of others.

Coming to health facilities from where the treatment was sought by the suffering respondents around 74 percent of these respondents sought treatment from public health institutions whereas 26 percent sought treatment from private health professionals or institutions. Further, around 94 percent of respondents suffering from chronic diseases in Tamil Nadu sought treatment from public health institutions comprising mainly district hospitals. In Orissa around 87 percent of the Chronic Disease patients sought treatment from public health institutions with mainly from PHCs, CHCs and DHs. Chronic Disease treatment seeking from public health institutions viz. PHCs, seems to be relatively higher in states of Jharkhand, Orissa, Assam and J&K. However, treatment sought from private health facilities seems to be relatively much higher in Uttar Pradesh (55.4%). Further, reasons extended for treatment from private doctors or health institutions in Uttar Pradesh are primarily better treatment and non-availability of medicines in the public health institutions. Non-availability of medicines in public health institutions was also extended as a major reason in MP and J&K for availing treatment from the private doctors or health institutions.

About mainstreaming of AYUSH in India the picture is quite dismal in the sense that around 99% of chronic patients have availed allopathic treatment, whether from public or private health facilities. The picture is similar in all the seven states. However, level of satisfaction with the treatment of the doctor was reported to be quite high i.e. more than 96% in all the states excepting Uttar Pradesh where 87% of the patients reported satisfaction. Interestingly, only 408 out of 1566 patients had sought treatment from private health facilities but 550 had reported that they had incurred expenditures on medicines. Further, expenditures incurred more than 1000 rupees are reported by 482 chronic patients. This clearly reflects that possibly free medicines are not made available in public health institutions and even chronic patients have to incur heavy expenditures on medicines even when they seek treatment from the public health facilities. Coming to referred cases to better healthcare facilities, around 11% of the cases (176/1566) get referred to either public or private health facilities. However, 83.5% of the cases get referred to either private doctors or private hospitals.

Coming to expenditures incurred on doctor's fee, drugs or transport the study team find that maximum chronic patients have reported expenditures more than 1000 rupees on the doctor's fee, then on drugs followed by transport and special food. Possibly, chronic patients with serious ailments get generally referred to private health facilities where they have to incur substantial expenditures on doctors, drugs and transport. Possibly, further strengthening of the healthcare system is needed to control chronic diseases.

Knowledge about ASHA, NRHM, VHND and VHSC

The NRHM envisages that every village will have a female Accredited Social Health Activist (ASHA) to act as the interface between the community and the public health system but in case of Tamil Nadu, ASHA is not in existence so the data for the ASHA will be analysed except the said state. Secondly, under NRHM, *Gram Panchayats* have been called upon to constitute Village Health & Sanitation Committees (VHSC). These committees shall steer the preparation of Village Health & Sanitation Plans. Such committees are essential for broad approaches to health improvement that involve a wide range of activities.

Data collected through field surveys indicate the extent of respondent's knowledge regarding NRHM, ASHA, Village Health and Nutrition Day (VHND) and VHSC. The data shows that around two-third of the respondents have heard about NRHM but when we go through state separately, the highest percentage was in Tamil Nadu (97%) and lowest in Jharkhand (49.4%) and most of them informed by ASHA/ANM (70.9%). On another aspect 81 percent of the household know to ASHA and mostly ASHA visits monthly in the respective village, overall only one-fourth respondent has reported about weekly visit of ASHA in the village. On average 76% ASHAs having kits and in 81% cases they provide common medicines to people as reported by the surveyed people. In only 41.7 percent villages VHSC is in existence and its percentage was only 17.9 in case of Uttar Pradesh and was highest (65.8%) in case of Tamil Nadu. By 54 % village VHND has organized with highest in Tamil Nadu (77%) to lowest in Uttar Pradesh (25%) and 89 % of them has organized the VHND less than 3 times in last three months. Only 43% people have told about improvement after launching of NRHM but its percentage was less than the total averages in case of high focus states except Tamil Nadu and Orissa.

Janani Suraksha Yojana (JSY) under NRHM is to promote institutional deliveries among poor pregnant women. In availing institutional delivery services the client is usually escorted, will be requiring transport to reach the institution and in case of complications, referral services will be required. The scheme has considered all these elements and has made provision for transport including referral and escort under the NRHM Programme.

Insights from the Field

Field level experiences from in-depth discussions with the state health officials provided an insight into the policy environment for implementation of the NRHM programme. Though the program got picked up quite late but seems to be progressing quite well. In most of the State Headquarters we were informed that all the District Health Plans are formulated with full discussions with the district health officials involved in NRHM and with full information about the crucial components and requirements in all the facilities as per discussion with village health and sanitation committee members, chief medical officers (CMOs) and chief medical services (CMSs). But most of the crucial figures furnished were same as that were ready by end of February 2009 to be presented for PIP meetings in the MoHFW. The resource allocation exercise

to Sub-district level health facilities was being carried out based on physical and financial requirements submitted in the complete District Health Plans. It may be of interest to mention that Family Planning programme officials at the state headquarters were not very enthusiastic about the whole exercise as they were under the impression that Family Planning Programmes is not of much significance now in NRHM agenda.

Interactions with CMOs, CMSs and MOIC at Secondary level Health Facilities like District Hospitals and Community Health Centers provided lot of information on constraints as well as positive aspects of NRHM. We had highlighted the positive aspects in earlier chapters and hereunder we would like to highlight only the snags and constraints towards effective implementation of the NRHM programme.

Serious shortage of medical doctors and specialists and paramedical staff, especially staff nurses and lab technicians, was extended as a serious reason for not getting good results despite no financial constraints under NRHM. It was clearly expressed that postings and availability of qualified doctors in rural areas would not be possible because of almost nil social facilities like educational infrastructure for their children, irregular supply of electricity as well as potable water, safety of females in some of the rural tracts in most of the states, unhygienic and insanitation conditions not only in rural neighbourhood or villages but also in the vicinity of health facilities. Some suggestions like higher transport allowance or transport facilities from the nearby towns to rural areas can help in getting services from qualified doctors, who can get better educational facilities for their children in the nearby towns. Further, some financial incentives like enhancement of Non-practicing allowance for doctors and other paramedical staff can help in proper implementation of the statutory requirements like no permission for private practice, etc.

Health Officials at Primary Health Care facilities like PHCs and SCs also clearly expressed similar serious constraints like political interference in terms of transfers of ANMs, safety and security of female medical staff, irregular supply of electricity, non-availability of water in general and potable water in specific, irregular supply of drugs and equipments, etc. There was hardly any in-patient at PHC and SC level because of the abovementioned constraints, especially electricity and water. Untimely and irregular flow of funds, especially under JSY scheme, hampers extension of quality health services and mobilization of beneficiaries.

Non-accreditation of private health facilities and personnel, which is one of the main objectives under PPP of NRHM, is an important constraint for extending health care facilities to all. Because of lack of properly equipped laboratories it becomes difficult to diagnose even minor ailments and thus most of the patients get referred to higher level secondary and tertiary health facilities, which unnecessarily get crowded and hampers effective delivery of health care.

ASHA scheme seems to working quite effectively as almost all the deliveries get registered under JSY scheme and have enhanced institutional deliveries, which in turn would reduce infant and maternal mortality and morbidity. However, these incentives irrespective of the birth order may have some pro-natalistic effects. However, the deliveries earlier being conducted at PHC level have been drastically reduced, rather hardly any taking place at PHC level. Involvement of ASHAs in organizing family planning camps, routine immunizations, DOTS distribution, etc. seems to have gone up. As far as maintenance of eleven registers by ANMs are concerned, seems to be only on paper. However, the field team were able to elicit most of the information from ANMs as almost all of them were keeping diaries or registers with segments

keeping requisite information and which was found to be correct also. Training of the grass root health functionaries like ASHA, need to be taken up seriously up to 5th Module.

Sensitization of PRIs functionaries should be taken up seriously. It should be done not only for technical guidance on the NRHM but also to bring about better awareness of the importance of integrating the community into the public health system. Appointment of more ASHAs, as per norms of one ASHA for 1000 population, is likely to further enhance institutional delivery which in turn would reduce infant and maternal mortality and morbidity, which is relatively high in Pilibhit district at present.

HMIS system in the district hospital, even at state head quarters level, need to be invigorated. Survey for up gradation of health facilities, at least at CHC level, need to be taken up urgently as most of the beneficiaries in rural areas are getting referred to District Hospitals even for cases, which can be handled easily at the CHC level.

As envisaged by the NRHM, the integration of community with the public health system remains to be incomplete in most of the states. It appears that the Panchayati Raj members lack full awareness of the NRHM programme resulting in non-cooperation from their part in the NRHM activities. Rather lot of interference in postings and transfers of ANMs and selection of ASHAs at local levels has been found to be quite difficult to get quality services from these grass root health functionaries. Increase of awareness through orientation and training programme would contribute to better understanding of the programme, its phases of implementation as well as the long term benefits to the community.

Effective ambulance system at PHC and SC level for movements of patients referred to health facilities and also for emergency services at the doorsteps would definitely help in rendering the delivery of health care at doorsteps in rural areas. Improvement in the Ambulance System, especially at the CHC and PHC level along with the up gradation as per the IPHS standards need to be taken up seriously. Further improvement in transport system or vehicles or ambulances at CHC levels, may be under PPP, can definitely help in improving the delivery care in rural areas.

Communication system needs to be certainly improved by providing at least one mobile phone in the absence of landline facilities at all the health facilities and would definitely improve provision of the timely healthcare in the rural areas. Even the grass root workers and ANMs are not aware or think that they are not entitled to use the untied fund for such essential services. Possibly some laxity in rules and regulations to permit the use of untied funds or grants or user's charges for the purpose can help in improving the health care delivery system in several states. It is also observed there is a need to provide simple and transparent guidelines for utilizing untied funds at SC, PHC and CHC level as well as VHSC funds. Both these funds remain underutilized in most places. The utilization of the public health facility is directly linked to such infrastructure facilities and thus the CHCs in many states and districts and thus would easily get converted into almost functional hospitals as per the goals of NRHM.

Contraception and AYUSH seems to be altogether neglected in the health care system in all the states. Even the policy environment at the state headquarters or even at District Hospitals level it seems that these two crucial components are not getting due importance in NRHM agenda. Even the grass root functionaries are getting more involved in with JSY scheme could be because of financial incentives and more importance accorded to the institutional deliveries. Thus, family planning programme seems to be getting neglected even on the hands of the health

officials, which may have long term externalities even for the health care system. AYUSH is also getting neglected because of the health officials, who are not very favourable to it and also less preference on the part of beneficiaries too.

Outsourcing of hospital services like cleaning, scavenging, keeping sanitation in the health facilities, washing of linens and patients dresses, 24x7 medical store and canteen, etc. would definitely facilitate improvements in cleaner environment and unnecessary harassments of keeping regular staff for such crucial hospital services.

Background Characteristics of the Selected Households in 7 states of India

Table 4.1: Background characteristic of Household

		UP	MP	Jharkhand	Orissa	Assam	Jammu & Kashmir	Tamilnadu	Grand %	Grand Total
Background characteristics of HH		1200	1200	1000	1000	1000	1000	1000	100	7400
Sex of the Head	Male	92.2	95.6	97.0	98.7	97.1	99.1	99.0	96.8	7162
	Female	7.8	4.4	3.0	1.3	2.9	0.9	1.0	3.2	238
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Social category	SC	34.3	13.8	19.1	19.2	10.1	17.7	26.9	20.4	1507
	ST	2.8	21.6	32.3	27.7	12.2	2.2	1.2	14.2	1049
	OBC	36.1	50.4	41.3	28.5	42.3	18.8	58.2	39.6	2929
	Others	26.8	14.2	7.3	24.6	35.4	61.3	25.9	13.7	1915
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Religion	Hindu	94.0	97.8	91.6	99.1	72.0	48.8	96.6	86.2	6382
	Muslim	5.8	2.1	8.4	0.6	27.0	50.5	1.0	13.1	969
	Others	0.3	0.1	0	0.3	1.0	0.7	2.4	0.7	49
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Type of Family	Joint	38.3	34.6	32.1	34.3	40.5	26.9	16.4	32.1	2377
	Nuclear	61.7	65.4	67.9	65.7	59.5	73.1	83.6	67.9	5023
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Total Income of HH	<25000	41.1	42.8	43.2	46.4	26.5	7.6	39.3	35.6	2636
	25001-50000	43.4	41.0	44.6	44.0	59.0	58.4	52.9	48.7	3602
	>50000	15.5	16.3	12.2	9.6	14.5	34.0	7.8	15.7	1162
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Total No. of earning member	1	76.6	81.8	86.8	87.4	80.9	94.4	90.5	85.1	6299
	2	18.4	15.2	11.3	11.5	16.7	5.2	9.0	12.7	940
	3+	4.9	3.1	1.9	1.1	2.4	0.4	0.5	2.2	161
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Members of family are insured for health	1	75.0	27.8	26.1	100.0	50.0	62.5	33.3	54.1	66
	2	17.5	27.8	17.4	-	25.0	25.0	66.7	22.1	27
	3+	7.5	44.4	56.5	-	25.0	12.5	-	23.8	29
	Total	40	18	23	2	4	32	3	100.0	122
Members of the HH										
Total members in the HH	1-5 member	58.8	69.1	73.0	80.2	76.2	82.8	94.5	75.7	5601
	6-10 member	38.8	30.6	26.8	19.8	23.5	17.2	5.5	23.8	1760

		UP	MP	Jharkhand	Orissa	Assam	Jammu & Kashmir	Tamilnadu	Grand %	Grand Total
	10+ member	2.5	0.3	0.2	-	0.3	-	-	0.5	39
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
No. of children, 0-5 years	1	60.4	66.0	67.2	73.0	73.2	66.3	74.0	68.3	3096
	2	34.7	30.0	31.2	26.5	26.1	30.7	25.4	29.4	1331
	3+	4.9	4.0	1.6	0.5	0.7	3.0	0.6	2.3	105
	Total	753	744	615	586	586	564	684	100.0	4532
Total No. of Infants (Male)	1	97.7	99.0	99.4	99.6	97.3	98.8	100.0	98.8	2142
	2	2.0	1.0	0.6	0.4	2.7	1.2	-	1.1	24
	3+	0.3	-	-	-	-	-	-	0.0	1
	Total	395	409	333	236	226	243	325	100.0	2167

Table 4.2: Household facilities

		UP	MP	Jharkhand	Orissa	Assam	J & K	T.Nadu	Grand %	Grand Total
HH Details		1200	1200	1000	1000	1000	1000	1000	7400	7400
Type of House	Pucca	17.7	11.7	7.5	6.4	24.8	26.4	17.5	15.9	1178
	Semi-Pucca	50.3	40.7	40.0	36.7	60.4	60.6	74.1	51.5	3809
	Kachha	31.1	46.9	52.5	56.8	14.7	13.0	8.4	32.3	2390
	Others	1.0	0.8	-	0.1	0.1	-	-	0.3	23
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Ownership of House	Own	99.2	98.3	98.4	98.9	99.4	99.7	93.7	98.3	7271
	Rented	0.8	1.7	1.6	1.1	0.6	0.3	6.3	1.7	129
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Separate room for kitchen	Yes	29.5	31.8	21.0	24.6	64.9	65.4	47.0	40.1	2964
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Toilet facility inside the house	Yes	27.9	33.8	14.7	9.3	58.6	58.7	37.5	34.2	2528
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
If yes, water is available	Yes	44.2	30.1	24.5	33.3	37.5	37.8	33.6	35.8	905
	Total	335	405	147	93	586	587	375	100.0	2528
Community toilet facility in the village	Yes	7.7	6.2	2.6	3.1	3.1	3.2	61.3	12.1	899
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Main source of lighting in the household	Electricity	49.9	55.5	39.1	52.2	80.7	88.3	97.9	65.5	4847
	Kerosene lamps	47.5	41.6	58.1	43.2	19.3	11.7	1.8	32.6	2410
	Others	2.6	2.9	2.8	4.6	-	-	0.3	1.9	143
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Regular source of drinking water in the house	Yes	63.8	52.1	32.4	34.2	82.6	84.6	95.7	63.3	4686
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Specify the source of drinking water	Tap	2.5	12.0	2.2	4.7	26.5	30.9	87.3	30.6	1432
	Hand pump	95.0	81.9	76.9	67.0	68.9	65.7	9.8	62.7	2937
	Well	1.7	6.1	17.3	21.3	0.8	0.1	0.3	4.1	191
	Others	0.8	-	3.7	7.0	3.8	3.3	2.6	2.7	126
	Total	766	625	324	342	826	846	957	100.0	4686
Is that water potable	Yes	86.5	52.1	31.9	94.2	84.1	83.0	95.4	75.0	5549
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
If no, how do you purify it	Boil	5.6	-	0.4	5.2	4.4	2.4	2.2	1.5	27
	Filter	7.4	-	0.1	-	3.1	2.4	2.2	1.2	23

		UP	MP	Jharkhand	Orissa	Assam	J & K	T.Nadu	Grand %	Grand Total
	Drink as it is	80.2	100.0	99.1	94.8	92.5	95.3	95.7	96.6	1788
	Others	6.8	-	0.3	-	-	-	-	0.7	13
	Total	162	575	681	58	159	170	46	100.0	1851
Any disease prevailing due to impurity of water	Yes	73.7	71.4	40.4	82.4	80.7	83.1	99.5	75.7	5602
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
If yes, specify	Diarrhoea/Cholera	70.6	44.9	61.6	63.0	54.4	60.0	42.0	54.9	3077
	Jaundice	7.2	9.9	4.2	4.5	15.5	14.3	11.0	9.9	555
	Fever	14.9	6.3	26.0	29.4	28.0	25.2	45.4	26.0	1458
	Stomach infection	7.2	38.9	8.2	3.2	2.1	0.5	1.6	9.1	512
	Total	884	857	404	824	807	830	995	100.0	5602
What type of fuel is used for cooking	Dung cake	50.1	48.8	21.3	16.6	36.1	39.2	0.7	31.4	2326
	Wood	44.6	46.5	67.0	81.9	48.6	42.9	68.7	56.5	4184
	Kerosene	0.1	1.5	0.2	0.7	1.9	2	2.5	1.2	92
	Conventional energy	0.1	-	0.1	-	-	-	-	0.0	3
	LPG	5.2	3.2	2.0	0.7	13.4	15.9	28	9.5	700
	Electricity	-	-	0.1	-	-	-	0.1	0.0	1
	Others	-	-	9.3	0.1	-	-	-	1.3	94
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400

Table 4.3: Information about ANC

		UP	MP	Jharkhand	Orissa	Assam	JK	T.Nadu	Grand %	Grand Total
Married women availing Ante Natal care		1200	1200	1000	1000	1000	1000	1000	100	7400
Pregnancy registration	<3 months	7.4	10.8	6.2	9.5	5.8	14.7	8.0	8.8	140
	3-6 months	46.1	42.8	61.1	51.0	56.3	39.2	27.8	46.0	729
	7-9 months	46.5	46.4	32.7	39.5	37.9	46.1	64.1	45.1	715
	Total	258	250	211	200	224	204	237	100.0	1584
Whether going for any ANC	Yes	46.5	73.2	74.9	87.5	89.7	80.9	98.3	78.0	1235
	Total	258	250	211	200	224	204	237	100.0	1584
Whether going for prenatal check up / Place of check up	ASHA/ANM/VHM	20.8	32.8	32.9	25.7	6.0	29.7	0.9	19.8	245
	SC	24.2	32.8	44.3	37.1	67.7	47.9	53.2	45.6	563
	PHC	7.5	13.7	11.4	23.4	17.4	14.5	45.5	20.9	258
	CHC	19.2	12.0	2.5	11.4	7.0	1.8	-	7.0	86
	Dist Hospital	3.3	2.2	1.9	0.6	1.5	3.6	0.4	1.8	22
	Private Doctor	13.3	2.2	3.2	1.1	-	1.2	-	2.3	29
	Private Hospital	11.7	4.4	3.8	0.6	0.5	1.2	-	2.6	32
	Total	120	183	158	175	201	165	233	100.0	1235
Distance of SC from Village	Within the village	59.2	88.0	86.7	66.9	92.5	92.7	99.6	85.6	1057
	In other Village	40.8	12.0	13.3	33.1	7.5	7.3	0.4	14.4	178
	Total	120	183	158	175	201	165	233	100.0	1235
Check ups	B.P	68.3	100.0	98.7	94.3	98.5	98.2	85.0	92.6	1144
	Height	58.3	68.9	77.8	70.3	74.1	66.7	72.1	70.4	869
	Weight	59.2	99.5	94.3	87.4	95.0	89.7	85.8	88.6	1094
	Urine	42.5	84.2	60.8	52.0	58.7	50.3	48.1	57.1	705
	Blood check up	31.7	15.8	1.9	1.7	1.5	-	1.3	19.8	244
	Total	120	183	158	175	201	165	233	100.0	1235

		UP	MP	Jharkhand	Orissa	Assam	JK	T.Nadu	Grand %	Grand Total
Vaccinated with Anti-Tetanus	Yes	79.8	97.6	94.3	93.5	95.9	100.0	92.0	92.9	1472
	Total	258	250	211	200	224	204	237	100.0	1584
Whether ASHA/ANM helps in any pregnancy related problems	Diet	61.6	79.2	72.5	79.0	73.7	94.1	71.7	75.4	1195
	Exercise	60.9	77.6	72.0	76.0	67.9	94.1	71.7	73.8	1169
	Precautions	60.9	79.2	42.7	75.0	69.2	94.1	71.7	70.2	1112
	Total	258	250	211	200	224	204	237	100.0	1584
Grand Total		258	250	211	200	224	204	237	1584	1584

Table 4.4: Information about Delivery Care, Janani Suraksha Yojana and Postnatal Care

		UP	MP	Jhar- khand	Orissa	Assam	J& K	T. Nadu	Grand %	Grand Total
Married women availing Post Natal care		1200	1200	1000	1000	1000	1000	1000	100	7400
Facility of JSY scheme	Yes	53.7	77.7	45.8	63.7	61.9	44.1	81.2	61.7	2931
	No	46.3	22.3	54.2	36.3	38.1	55.9	18.8	38.3	1816
	Total	787	766	651	630	654	574	685	100.0	4747
Facility of Post Natal Check up after last child	Yes	41.3	53.5	37.9	45.1	42.7	30.8	90.8	49.4	2345
	Total	787	766	651	630	654	574	685	100.0	4747
Place of Check Ups	SC	16.3	14.9	52.2	32.4	53.6	11.3	47.7	34.2	802
	PHC	12.6	28.3	27.5	28.2	16.8	24.3	44.7	28.7	673
	CHC	40.6	45.4	3.2	30.6	23.2	45.2	3.1	24.6	577
	DH	12.6	7.8	3.6	8.1	2.9	15.3	3.4	6.9	161
	Private	17.8	3.7	13.4	0.7	3.6	4	1.1	5.6	132
	Total	325	410	247	284	280	177	622	100.0	2345
Govt. health centres are satisfactory	Yes	88.3	96.1	93.1	97.5	92.9	98.9	98.1	95.2	2232
	Total	325	410	247	284	280	177	622	100.0	2345
Number of times you were pregnant after marriage	1	20.3	36.6	27.3	40.2	39.8	35.5	36.5	33.4	1588
	2	28.0	28.3	35.1	33.7	33.6	36.2	57.4	35.8	1698
	3	25.4	18.4	20.9	16.3	17.6	18.1	5.7	17.7	839
	4+	26.3	16.7	16.8	9.8	8.9	10.1	0.4	13.2	627
	Total	787	766	651	630	654	574	685	100.0	4747
No. of live births	1	27.1	41.8	35.5	45.4	48.8	40.2	48.0	40.6	1929
	2	27.4	27.8	33.5	36.8	34.1	34.3	47.2	34.2	1622
	3	22.7	17.2	17.5	11.4	12.8	16.6	4.4	14.9	706
	4+	22.7	13.	13.5	6.3	4.3	8.9	0.4	10.3	490
	Total	787	766	651	630	654	574	685	100.0	4747
Death of any children aged less than one year	Yes	4.7	3.0	3.1	2.4	2.3	1.6	0.6	2.6	123
	Total	787	766	651	630	654	574	685	100.0	4747
Causes of death	Diarrhoea	-	-	-	6.7	-	-	-	0.8	1
	Malaria	-	-	-	6.7	-	-	-	0.8	1
	Pneumonia	10.8	-	-	-	-	-	-	2.4	3
	Fever	37.8	-	-	-	-	-	50.0	11.4	14
	Others/Polio	21.6	87.0	50.0	80.0	46.7	40.0	50.0	52.0	64
	Don't know	29.7	13.0	50.0	6.7	53.3	60.0	-	32.5	40
	Total	37	23	20	15	15	9	4	100.0	123
Any miscarriage/Abortion/Still birth during last 1 yr	Yes	1.1	1.8	0.8	0.6	0.3	0.9	0.3	0.9	41
	Total	787	766	651	630	654	574	685	100.0	4747

Causes of occurrence	weakness	44.4	-	20.0	75.0	-	100.0	100.0	36.6	15
	workload	-	-	20.0	-	-	-	-	2.4	1
	Don't know	55.6	100.0	60.0	25.0	100.0	-	-	61.0	25
	Total	9	14	5	4	2	6	2	100.0	41
Grand Total		787	766	651	630	654	574	685	787	4747

Table 4.5: Child care & Immunization

		UP	MP	Jharkhand	Orissa	Assam	J&K	T. Nadu	Grand %	Grand Total
Child Care 0-5 years		1200	1200	1000	1000	1000	1000	1000	100.0	7400
Type of delivery	Normal	96.7	96.9	95.6	97.6	96.6	99.1	87.8	95.8	6058
	Caesarean	3.3	3.1	4.4	2.4	3.4	0.9	12.2	4.2	268
	Total	1130	1050	881	793	833	779	860	100.0	6326
Place of delivery	Home	54.2	37.7	53.9	47.4	43.1	62.0	4.2	43.3	2738
	SC	1.9	1.0	1.1	0.1	0.1	-	4.0	1.3	81
	PHC	7.8	25.0	23.4	17.9	20.8	10.0	61.7	23.4	1480
	CHC	19.6	28.0	2.2	24.3	20.9	15.0	4.7	16.7	1058
	DH	6.3	6.9	4.8	8.3	10.8	11.7	19	9.4	595
	Private clinics	10.2	1.4	14.6	1.6	4.3	1.3	6.5	5.9	374
	Total	1130	1050	881	793	833	779	860	100.0	6326
Weight of baby at the time of birth	<1.8 kgs	5.0	8.5	3.7	7.1	5.3	1.3	4.9	5.2	330
	1.8 - 2.5 kgs	39.2	65.1	22.5	23.6	39.1	17.6	58.3	39.3	2486
	>2.5 kgs	22.9	26.4	22.8	28.5	29.3	20.9	32.4	26.1	1649
	not taken	32.9	-	51.0	40.9	26.3	60.2	4.4	29.4	1861
	Total	1130	1050	881	793	833	779	860	100.0	6326
Whether vaccinated	BCG	98.4	96.5	99.8	99.5	100.0	100.0	99.8	99	6207
	DPT 1,2 & 3	93.7	93.0	97.7	91.0	98.3	97.1	96.0	95.2	5967
	Polio 1,2 & 3	82.8	96.6	94.4	84.4	98.0	95.8	91.3	90.1	5652
	Measles	41.2	62.1	66.4	56.2	73.5	69.9	66.4	61.4	3849
	Hepatitis	13	8.0	21.9	4.3	2.2	1.6	19.4	9.7	607
	Total	1094	1050	869	793	833	771	860	100.0	6270
Have immunization card	Yes	82.3	87.2	88.0	94.7	78.6	80.9	72.0	83.4	5230
	No	17.7	12.8	12.0	5.3	21.4	19.1	28	16.6	1040
	Total	1094	1050	869	793	833	771	860	100.0	6270
No give reason	Lost	85.0	70.9	100.0	97.6	92.8	99.3	96.3	91.1	947
	Not Available	15.0	29.1	-	2.4	7.2	0.7	3.8	8.9	93
	Total	193	134	104	42	180	147	240	100.0	1040
Place for availing most of the facility of vaccination	SC	62.8	74.0	70.9	48.4	87.5	88.7	43.0	67.7	4247
	PHC	5.9	0.7	0.2	0.9	0.5	0.3	55.1	8.9	560
	CHC	2.7	0.9	-	-	-	-	0.1	0.6	39
	DH	0.5	0.1	-	-	0.1	-	0.5	0.2	11
	Govt. mobile clinic	0.3	-	-	-	-	-	-	0.0	3
	ANM/AWW/MHW/ASHA	24.1	21.9	27.5	47.4	11.8	11.0	1.2	20.8	1302
	Private doctor	1.7	0.1	-	-	0.1	-	-	0.3	20
	Any other	1.3	2.4	1.4	3.3	-	-	0.1	1.4	88
	Total	1094	1050	869	793	833	771	860	100.0	6270
Suffering from Polio	Yes	0.8	0.1	0.7	0.8	0.2	-	2.8	0.6	41
	Total	1130	1050	881	793	833	779	860	100.0	6326
Bed net used	Yes	28.1	37.3	32.8	34.4	57.0	29.0	14.4	33.1	2096

		UP	MP	Jharkhand	Orissa	Assam	J&K	T. Nadu	Grand %	Grand Total
regularly for the child to avoid mosquito bite	Total	1130	1050	881	793	833	779	860	100.0	6326
Child ever breast fed	Yes	98.6	99.4	99.1	99.7	99.4	98.7	100.0	99.3	6279
	Total	1130	1050	881	793	833	779	860	100.0	6326
Till what age only breastfed	Less than 4 months	15.1	14.9	21.5	18.5	14.7	1.6	53.3	19.7	1249
	4-6 months	57.0	48.3	53.3	52.3	64.0	59.0	39.2	53.6	3392
	more than 6 months	27.9	36.8	25.2	29.1	21.3	39.4	7.6	26.6	1685
	Total	1130	1044	876	793	828	769	860	100.0	6326

Table 4.6: Family Planning

		UP	MP	Jharkhand	Orissa	Assam	J&K	T. Nadu	Grand %	Grand Total
Family Planning		1200	1200	1000	1000	1000	1000	1000	100	7400
You/ husband using any Family Planning method	Yes	42.3	53.7	54.7	53.4	65.5	61.6	63.3	56.0	3940
	No	57.7	46.3	45.3	46.6	34.5	38.4	36.7	44.0	3102
	Total	1111	1139	960	976	968	968	920	100.0	7042
Which method you/ your husband using	female Sterilization	23.4	38.9	21.7	28.4	12.1	9.1	58.1	27.4	1079
	Non scalpel Vasectomy	0.2	0.3	0.8	0.4	-	0.3	0.2	0.3	12
	IUD/Copper-T/Loop	4.9	4.4	3.8	4.4	1.7	3.9	25.4	7.0	275
	Oral Pills	12.3	19.6	26.1	28.4	30.6	33.6	8.1	22.9	904
	Condom/ Nirodh	56.4	36.8	45.0	37.8	54.7	53.2	8.1	41.5	1634
	Rhythm/periodic abstinence	0.4	-	0.4	-	0.5	-	-	0.2	7
	Withdrawal	0.4	-	1.1	0.2	0.3	-	0.2	0.3	12
	Other Trade. Method (specify)	1.9	-	1.1	0.4	-	-	-	0.4	17
	Total	470	612	525	521	634	596	582	100.0	3940
Who mainly motivated you to use current method	ASHA	59.6	40.5	24.2	35.5	18.5	24.2	46.2	34.8	1370
	ANM	17.0	29.6	40.6	28.6	16.1	45.3	18.6	28.0	1103
	Doctor	8.9	4.4	1.5	1.2	0.8	6.5	0.5	3.3	130
	Friends	4.5	3.8	4.6	5.6	5.5	8.6	0.7	4.7	187
	Relatives	4.5	5.6	9.1	10.6	8.5	5.5	18.4	8.9	352
	Others(specify)	5.5	16.2	20.0	18.6	50.6	9.9	15.6	20.3	798
	Total	470	612	525	521	634	596	582	100.0	3940
Getting contraceptives free of cost	Yes	82.6	88.6	88.2	88.5	69.9	91.1	96.6	86.3	3402
	Total	470	612	525	521	634	596	582	100.0	3940
What was the source for getting the method	ASHA/ANM/ VHW	63.0	51.1	59.0	54.3	45.4	44.3	8.8	45.8	1805
	Govt. hospital/ CHC/PHC/SC	24.9	40.2	27.2	37.6	24.1	48.2	90.0	42.3	1666
	Pvt.hospitals/ Doctor/Chemist	7.7	4.1	6.7	5.6	29.2	7.6	1.2	9.2	362
	NGOS	0.2	0.8	2.7	1.3	0.6	-	-	0.8	31
	Others(specify)	4.3	3.8	4.4	1.2	0.6	-	-	1.9	76
	Total	470	612	525	521	634	596	582	100.0	3940
You/husband had any health problem while using this method	Yes	2.6	1.5	0.6	0.8	0.5	0.5	1.5	1.1	43
	Total	470	612	525	521	634	596	582	100.0	3940
What is the main reason for not using any method	Want a Child	45.9	72.3	85.3	80.4	78.1	89.0	90.5	74.5	2310
	Not having Sex	9.2	8.9	3.9	0.7	1.2	3.0	0.6	4.6	143

		UP	MP	Jharkhand	Orissa	Assam	J&K	T. Nadu	Grand %	Grand Total
	Method Failed/become pregnant	8.4	4.7	0.9	4.0	1.5	1.6	0.9	3.7	115
	Relatives opposed	2.2	-	-	0.4	-	-	-	0.5	16
	Religious prohibition	1.1	-	-	-	0.3	0.8	0.3	0.4	12
	Not aware of any method	0.3	-	-	0.4	-	-	0.3	0.2	5
	Not knowing the source of availability	3.3	1.5	9.7	1.1	-	0.3	0.6	2.5	79
	Inconvenient to use	1.4	0.2	-	-	-	-	-	0.3	10
	Health problems	13.3	2.7	1.4	2.6	3.0	1.1	0.9	4.3	134
	Fear of side effects	4.5	1.3	1.4	-	0.6	0.5	0.6	1.5	48
	Lack of sexual satisfaction	0.5	1.5	2.1	1.1	0.6	3.2	0.3	1.3	40
	Others (specify)	14.7	7.0	7.8	9.5	15.0	0.3	5.0	8.9	276
	Total	641	527	435	455	334	372	338		3102
How many children do you have	Sons									
	1	41.5	62.1	49.7	53.4	55.5	50.5	59.5	52.7	2992
	2	29.3	30.1	27.8	24.6	20.7	24.9	15.8	25.0	1418
	3+	29.3	7.8	22.5	22.0	23.8	24.6	24.7	22.3	1269
	Total	998	787	791	747	743	835	778	100.0	5679
	Daughters									
	1	42.2	55.7	49.7	52.1	57.3	55.1	59.6	52.6	2748
	2	25.2	29.4	23.8	24.0	20.0	18.4	12.7	22.1	1157
	3+	32.6	14.9	26.5	23.9	22.7	26.5	27.8	25.3	1320
	Total	932	720	743	708	744	683	695	100.0	5225
	Would you like to have another child	yes	43.8	47.5	54.8	60.1	63.7	63.0	42.4	53.4
no		56.2	52.5	45.2	39.9	36.3	37.0	57.6	46.6	3285
Total		1111	1139	960	976	968	968	1000	100.0	7042
After how many months/years you want another child	Less than 1 year	24.8	33.3	32.1	30.5	24.1	37.7	12.6	28.7	1077
	B/w 1-2 yrs	40.7	51.9	51.7	49.1	53.3	43.9	39.0	47.6	1788
	more than 2 yrs	34.5	14.8	16.2	20.4	22.5	18.4	48.5	23.8	894
	Total	487	541	526	587	617	610	390		3758
How many more children you want to have	Sons									
	1	73.7	82.6	80.6	73.1	78.6	69.1	100.0	78.2	2263
	2	22.9	17.4	18.6	26.7	21.0	27.0	-	20.6	595
	3+	3.4	-	0.7	0.2	0.4	3.9	-	1.3	37
	Total	388	397	403	491	509	459	248		
	Daughters									
	1	92.1	97.7	97.3	92.6	95.1	99.6	100.0	96.2	1518
	2	7.5	2.3	2.3	7.4	4.9	0.4	-	3.7	58
	3+	0.4	-	0.5	-	-	-	-	0.1	2
	Total	239	264	222	229	224	237	163		
What is the main reason for not wanting additional child	Have sufficient no. of children	91.8	93.5	94.7	94.6	98.3	99.2	99.8	95.6	3141
	Health problems	6.9	3.2	3.9	3.3	1.1	0.3	-	3.0	97
	Any other (specify)	1.3	3.3	1.4	2.1	0.6	0.6	0.2	1.4	47
	Total	624	598	434	389	351	359	530	100.0	3285
Grand Total	1111	1139	960	976	968	968	920		7042	

Table 4.7: Chronic diseases

		UP	MP	Jharkhand	Orissa	Assam	J & K	T. Nadu	Grand %	Grand Total
Chronic disease		1200	1200	1000	1000	1000	1000	1000	100	7400
Suffering from Chronic Disease	Malaria	1.4	0.4	0.5	6.3	0.5	-	0.5	1.3	21
	Kala Azar	0.3	2.8	1.4	4.9	1.0	-	1.0	1.6	25
	Filaria/microfilaria	1.7	0.4	5.7	-	-	-	0.5	1.2	19
	Cataract	0.7	1.6	0.9	-	-	-	1.5	0.7	11
	Leprosy	2.8	4.1	9.9	9.8	3.9	0.5	3.0	4.7	74
	TB	21.1	32.5	41.0	42.9	39.6	33.5	32.3	34.0	532
	fever/cold/cough	2.1	1.2	0.9	1.5	1.9	-	1.0	1.3	20
	Hepatitis	1.0	0.4	2.4	1.5	1.4	-	-	1.0	16
	Diarrhoea	-	-	-	-	-	-	-	-	-
	Cholera	-	-	-	-	-	-	-	-	-
	Accident	0.7	1.2	1.9	0.5	4.8	-	0.5	1.3	21
	Differently able	0.3	-	-	-	-	-	-	0.1	1
	Any other	67.8	55.3	35.4	32.7	46.9	66.0	59.7	52.7	826
Total	289	246	212	205	207	206	201	100.0	1566	
Where you gone for treatment	Govt.	44.6	63.0	69.8	86.8	90.3	83.5	94.0	73.9	1158
	Pvt.	55.4	37.0	30.2	13.2	9.7	16.5	6.0	26.1	408
	Total	289	246	212	205	207	206	201	100.0	1566
	If went to pvt., Reasons									
	Better Treatment	73.1	40.7	82.8	100.0	100.0	32.4	100.0	70.8	289
	Medicines are not available/Govt. hospital too far/Emergency	26.9	59.3	17.2	-	-	67.7	-	29.2	119
	Total	160	91	64	27	20	34	12	100.0	408
	If govt., Where									
	SC	5.4	4.5	14.2	1.7	7.0	13.4	0.5	6.5	75
	PHC	17.1	19.4	64.9	53.4	38.5	36.6	11.1	34.5	399
CHC	60.5	51.0	1.4	24.7	26.2	39.5	17.5	30.5	353	
DH	17.1	25.2	19.6	20.2	28.3	10.5	70.9	28.6	331	
Total	129	155	148	178	187	172	189	100.0	1158	
Which type of treatment was taken	AL	97.9	98.0	99.5	100.0	100.0	100.0	100.0	99.2	1554
	AY	1.7	0.8	0.5	-	-	-	-	0.5	8
	YN	-	0.4	-	-	-	-	-	0.1	1
	UN	-	-	-	-	-	-	-	-	-
	SD	-	-	-	-	-	-	-	-	-
	HO	0.3	0.8	-	-	-	-	-	0.2	3
	Total	289	246	212	205	207	206	201	100.0	1566
Whether doctor attended you carefully	Yes	86.9	96.3	98.6	98.0	100.0	99.5	98.0	96.2	1507
	Total	289	246	212	205	207	206	201	100.0	1566
Whether medicines received free of cost	Yes	37.4	52.7	60.4	75.6	70.0	81.6	90.0	64.9	1016
	No	62.6	47.3	39.6	24.4	30.0	18.4	10.0	35.1	550
	Total	289	246	212	205	207	206	201	100.0	1566
If no expenditure incurred	<500 Rs.	8.3	6.1	2.4	15.4	4.8	2.6	5.0	6.7	37
	500-1000 Rs.	6.6	5.2	7.1	1.9	3.2	13.2	5.0	5.6	31
	>1000 Rs.	85.1	88.7	90.5	82.7	91.9	83.8	90.0	87.6	482
	Total	181	115	84	50	62	38	20	100.0	550

		UP	MP	Jharkhand	Orissa	Assam	J & K	T. Nadu	Grand %	Grand Total
Duration of treatment	Less than 3 months	33.9	44.3	42.5	48.8	54.1	2.9	43.8	38.5	603
	3-6 months	17.6	13.4	25.9	23.4	22.7	25.2	39.8	23.3	365
	7-10 months	4.5	12.6	8.0	14.1	14.0	21.4	3.5	10.9	170
	More than 10 months	43.9	29.7	23.6	13.7	9.2	50.5	12.9	27.3	428
	Total	289	246	212	205	207	206	201	100.0	1566
Have you been referred to other doctor/hospital	Yes	14.2	15.0	16.5	11.7	13.6	0.5	5.0	11.2	176
	Total	289	246	212	205	207	206	201	100.0	1566
Referred to	Govt. hospital	14.6	16.2	14.3	20.8	17.9	100.0	10.0	16.5	29
	Pvt. Doctor/clinic	41.5	13.5	20.0	25.0	28.6	-	30.0	26.1	46
	Private hospital	43.9	70.3	65.7	54.2	53.6	-	60.0	57.4	101
	Total	41	37	35	24	28	1	10	100.0	176
Expenditure	doctor's fee									
	Less than 300 Rs.	12.2	21.6	3.0	75.0	-	-	-	18.8	33
	300-600 Rs.	9.8	5.4	6.1	-	3.6	100.0	-	6.3	11
	601-1000 Rs.	7.3	13.5	6.1	8.3	7.1	-	20.0	9.1	16
	More than 1000 Rs.	70.7	59.5	84.8	16.7	89.3	-	80.0	65.9	116
	Total	41	37	33	24	28	1	10	100.0	176
	drugs									
	Less than 300 Rs.	66.7	51.4	-	50.0	-	-	-	29.4	32
	300-600 Rs.	16.7	13.5	7.1	38.9	7.7	-	14.3	15.6	17
	601-1000 Rs.	-	5.4	-	11.1	3.8	-	42.9	7.3	8
	More than 1000 Rs.	16.7	29.7	92.9	-	88.5	100.0	42.9	47.7	52
	Total	6	37	14	18	26	1	7	100.0	109
	Special food									
	Less than 300 Rs.	100.0	94.6	12.5	-	3.8	-	-	48.1	39
	300-600 Rs.	-	5.4	25.0	-	-	100.0	16.7	6.2	5
	601-1000 Rs.	-	-	-	-	7.7	-	50.0	8.6	7
	More than 1000 Rs.	-	-	62.5	-	88.5	-	33.3	37.0	30
	Total	3	37	8		26	1	6		81
	transport									
	Less than 300 Rs.	60.0	75.7	12.5	-	3.8	100.0	16.7	42.2	35
	300-600 Rs.	-	16.2	25.0	-	7.7	-	33.3	14.5	12
601-1000 Rs.	40.0	2.7	-	-	69.2	-	33.3	26.5	22	
More than 1000 Rs.	-	5.4	62.5	-	19.2	-	16.7	16.9	14	
Total	5	37	8		26	1	6	100.0	83	
other										
Less than 300 Rs.	66.7	-	-	-	65.4	100.0	-	48.8	20	
300-600 Rs.	-	-	37.5	-	11.5	-	33.3	17.1	7	
601-1000 Rs.	-	-	25.0	-	19.2	-	33.3	19.5	8	
More than 1000 Rs.	33.3	-	37.5	-	3.8	-	33.3	14.6	6	
Total	3	-	8	-	26	1	3	100.0	41	
Whether satisfied with the service	Yes	66.8	71.5	66.5	63.4	76.3	84.0	82.6	73.1	1145
	No	33.2	28.5	33.5	36.6	23.7	16.0	17.4	26.9	421
	Total	289	246	212	205	207	206	201	100.0	1566
If no, why?	Improper treatment	35.4	77.1	47.3	33.3	-	83.3	40.0	19.2	81
	Medicine was not effective/ no relief	64.6	22.9	52.8	66.7	100.0	16.7	60.0	80.8	340
	Total	96	70	72	75	49	24	35		421
Grand total		289	246	212	206	217	206	201		

Table 4.8: Information about ASHA & NRHM

		UP	MP	Jharkhand	Orissa	Assam	JK	T. Nadu	Grand %	Grand Total
Information about ASHA		1200	1200	1000	1000	1000	1000	1000	100.0	7400
Have you heard about ASHA	Yes	98.4	84.4	94.6	98.0	94.5	95.5	-	81.4	6020
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Have you heard about NRHM	Yes	68.4	58.8	49.4	65.4	61.0	61.5	97.0	65.8	4870
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Source of information	ASHA/ANM	80.8	72.8	65.8	73.7	62.3	64.2	71.8	70.9	3455
	Radio/TV	15.7	14.9	13.2	11.9	29.3	28.3	19.2	18.8	916
	Newspapers	1.5	0.6	4.0	3.5	7.5	6.7	2.9	3.6	174
	Any other	2.1	11.8	17.0	10.9	0.8	0.8	6.2	6.7	325
	Total	821	706	494	654	610	615	970	100.0	4870
How often ASHA visits your house	Every week	39.4	26.6	10.7	27.4	18.4	18.4	-	24.2	1454
	Bi-weekly	32.1	29.9	27.1	28.8	19.5	17.3	-	26.1	1569
	Monthly	26.6	30.9	45.3	38.5	48.3	49.1	-	39.2	2358
	Once in 3 months	0.8	4.8	6.1	4.2	12.4	14.5	-	6.9	413
	Never	0.7	7.8	10.1	1.1	1.5	0.7	-	3.6	215
	Others	0.4	-	0.6	-	-	-	-	0.2	11
	Total	1181	1013	946	980	945	955		100.0	6020
Does ASHA carry kit?	Yes	84.3	82.3	54.9	89.9	71.6	70.2	-	76.0	4576
	Total	1181	1013	946	980	945	955		100.0	6020
Does ASHA provide common medicines free of cost	Yes	76.1	81.9	74.2	93.1	80.5	81.7	-	81.1	4884
	Total	1181	1013	946	980	945	955		100.0	6020
Whether ASHA tells about good health practices like sanitation/hygiene	Yes	63.0	70.5	72.4	78.1	72.9	74.7	-	71.6	4310
	Total	1181	1013	946	980	945	955		100.0	6020
Whether any health day at Aanganwadi or at any other place organized in your village	Yes	25.2	42.4	46.9	62.5	65.0	68.4	76.6	54.1	4005
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
If yes then frequency(last three months)	Less than 3 times	49.7	93.1	95.1	96.6	85.5	91.8	83.6	88.8	3558
	3-6 times	28.5	4.1	4.7	3.4	0.2	0.1	9.7	4.1	166
	More than 6 times	21.9	2.8	0.2	-	14.3	8.0	6.8	7.0	281
	Total	302	509	469	625	650	684	766	100.0	4005
Whether ASHA tells about safe drinking water	Yes	75.1	81.5	80.1	78.7	75.3	76.1	-	77.8	4681
	Total	1181	1013	946	980	945	955		100.0	6020
Is there any village health and sanitation committee(VHSC) in your village	Yes	17.9	24.8	28.4	40.7	61.9	60.7	65.8	41.7	3087
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Are you member of VHSC	Yes	6.0	6.7	1.4	4.2	2.4	2.6	0.5	2.9	88
	Total	215	297	284	407	619	607	658	100.0	3087

		UP	MP	Jharkhand	Orissa	Assam	JK	T. Nadu	Grand %	Grand Total
If yes specify the contribution of VHSC in improving health & hygienic condition of the village	Program support / Awareness about health	69.2	100.0	50.0	-	100.0	43.8	100.0	73.9	65
	Not done / Don't know	30.8	-	50.0	100.0	-	56.3	-	26.1	23
	Total	13	20	4	17	15	16	3	100.0	88
Whether any health camps organized at village/community/ block level	Yes	21.2	24.3	21.6	28.0	36.9	33.6	55.3	31.1	2299
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
If yes, have you attended that camp/programme	Yes	68.9	84.9	79.6	86.1	80.8	90.5	95.8	85.6	1967
	No	31.1	15.1	20.4	13.9	19.2	9.5	4.2	14.4	332
	Total	254	291	216	280	369	336	553	100.0	2299
If no, give reasons	No need /No company / No knowledge /Not allowed	55.7	11.4	6.8	51.3	16.9	56.3	34.8	62.7	208
	Lack of time	44.3	88.6	93.2	48.7	83.1	43.8	65.2	37.3	124
	Total	79	44	44	39	71	32	23	100.0	332
Are you aware with the timings of doctor's visit at SC	Yes	35.8	43.8	54.9	64.0	89.9	91.7	79.5	64.3	4755
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
Whether seen any improvement after launching of NRHM	Yes	34.3	33.3	30.5	47.5	26.7	28.8	89.3	43.3	3039
	Total	1200	1200	1000	1000	1000	1000	1000	100.0	7400
If yes mention	Benefits of JSY/ Institutional delivery	8.5	38.3	11.5	26.5	11.2	8.3	31.1	22.6	686
	Improved immunization	43.8	31.8	67.5	38.3	81.3	83.3	21.3	44.2	1342
	Doctor & workers attend proper / Good medicines /	14.8	21.8	13.1	31.8	4.9	6.6	13.1	16.1	488
	Improvement of hospital infrastructure/ better cleanness	32.8	8.3	7.9	3.4	2.6	1.7	34.5	17.2	523
	Total	411	400	305	475	267	288	893	100.0	3039

Chapter 5

Utilization of MCH, Family Planning and Chronic Disease Control Services by Background Characteristics

In seeking health services, households can be expected to make choices on the basis of perceived quality, proximity and affordability of the source of service. Thus the source of service chosen by the household could be useful indicator of the quality of service provided by the source. In particular, poor households are expected to use predominantly a public healthcare facility being subsidized for their health care needs. Instead, if they were found to use private facility it may be because of public facilities are not available in the area or because of quality of services are regarded as poor. The survey data would provide some interesting insights on the utilization of public/private healthcare facilities for some crucial MCH, Chronic Disease and Family Planning services by background characteristics of households and women, who use them.

Maternal Health Care

Promotion of maternal and child health being an important objective of the NRHM initiatives to reduce Maternal and Infant and Child mortality by focusing on strategies of promoting wider utilization of essential obstetric and new born care for all, skilled attendance at every birth, emergency obstetric care for those having complications and referral services. The Maternal health care package of antenatal care, delivery care and postnatal care is a crucial component of NRHM to reduce maternal morbidity and mortality. The ANC package comprises of physical checks, checking position and growth of fetus and giving Tetanus Toxoid injection (TT) at periodic intervals during the time of pregnancy. At least three check-ups are expected to complete the course of ANC to safeguard women from pregnancy related complications and forewarn pregnant women about possible delivery complications. Institutional delivery and post-natal care in a health facility is promoted in NRHM through introduction of accredited social health activist (ASHA) at village level and Janani Suraksha Yojana, a 100% centrally sponsored scheme, providing cash assistance with delivery and post delivery care. The JSY was basically to promote demand for institutional deliveries in high focused states to lower Maternal Mortality Ratio.

Antenatal Care

During antenatal period, it is essential to monitor complications that could arise during pregnancy or delivery, detect and treat the existing problems, provide advice on the diet and about various preventive measures that should be taken during pregnancy. As per norms, the expecting mothers should receive two doses of tetanus toxoid vaccine, adequate amount of iron and folic acid tablets or syrup to prevent anaemia. Pregnant women are expected to visit a health facility to have at least three antenatal check-ups for blood and urine test and other procedures to detect pregnancy related complications. To woman' questionnaire had probed whether the pregnant women had sought any antenatal check-ups or not, and if availed then from where, whether from public or private health care facilities.

Perusal of Table 5.1 and bar-diagrams reveals that antenatal care is still a grossly neglected area of maternal health care as still 349 out of 1584 i.e. 22% of the pregnant women; are still not availing any ANC. Looking to Bar-diagrams proportionate women with higher

education are significantly less compared to illiterate and middle level educated women in the no-use category for antenatal care. In other words higher educated women make much higher utilization of antenatal care and check-ups. Further women from higher income households also depict much higher utilization of ANC compared to women from lower income households. Surprisingly, women from type of house (*pucca* vs. *kacha*), with separate kitchen and toilet facility or potable drinking water facility within the residential premises don't depict any such pattern of higher utilization of antenatal check-ups. Interestingly, the pregnant women from households where ASHAs make more frequent visits and carry kits/medicines meant for free distribution and get involved in counselling, depict much higher tendency of using antenatal check-ups compared to households where visits are not that regular and frequent. However, role of village health and sanitation committees and holding village health and nutrition days don't depict any positive impact on promotion of wider utilization of antenatal care or check-ups. Proximity to public health facility or PHC makes substantial difference in utilizing the antenatal care facilities from public health institutions. Rather, higher distances from PHCs/SCs, from where majority of the rural women make use of antenatal care, deters women and rather compels them to make higher use of private health care facilities for the purpose. Not surprisingly, role of education, income, health functionaries like ASHAs, and proximity to public health institutions play an important role towards promotion of widespread utilization of antenatal care in rural India.

Utilization of public health facilities for antenatal care, which is mostly from PHCs/SCs, is substantial in rural India. Still around 74% of the pregnant women (1174/1584) make use of public health facilities for antenatal checkups. Coming to the utilization by background characteristics women's education or income don't depict much impact on the utilization and no regular patterns are discerned alongwith increase in education or income. Further, the women from middle income households and middle educational levels make higher use of public health facilities compared with illiterate and higher educated women and also from lower or higher income households. Further, women from households with separate toilet facility and potable drinking water facility within residential premises depict higher utilization of public health facilities for the antenatal care. Again role of ASHAs in terms of regular visits, distribution of free medicines, and counselling with women play an important role in promoting utilization of public health facilities for antenatal care/check-ups. However, role of village health and sanitation committee and holding of village health and nutrition days does not turn out to be important in promoting usage of public health facilities for the antenatal care. Coming to proximity of public health facilities significant improvement is observed in utilization for the antenatal care in case the PHCs/SCs being closer to villages or respondents. Overall, role of education and income turns out to be insignificant, but the role of ASHAs in terms of regular visits, free distribution of medicines and counselling, and proximity of public health institutions play an important role towards promotion utilization of antenatal care by the pregnant women.

Utilization of private health facilities for antenatal checkups is revealed to higher amongst women with higher education and from higher income households. Further, women from households Further, Women from households with separate toilet and potable drinking water facility within the residential premises depicting better housing conditions and better standards of living are also discerned to be using private health facilities compared to women from households without these facilities. Again role of ASHA's visits, counselling and distribution of free medicines not only encourages women for more and more utilization of public health facilities but also private health facilities for the antenatal care. Higher distance of

public health institutions, especially PHC, also compels women to use more of private health facilities for the antenatal care in rural areas.

Delivery Care

Maternal mortality and foetal losses could be reduced considerably if women undergo delivery under hygienic conditions under the supervision of trained health professionals. Under NRHM strategic interventions to improve the institutional deliveries special provision of round the clock delivery services in all the CHCs and 50% of the PHCs were envisaged by placing at least 3-5 Staff Nurses and 1 trained Medical Officer in these facilities (MoHFW, 2009) under the RCH-II were made. Training of Obstetric Management skills and provision of Emergency Obstetric and Neonatal care alongwith provision of critical components such as human resource, blood storage units and referral linkages at FRUs was intended to improve institutional deliveries. Information from mothers about the place of birth for all the surviving children aged 0-5 years was elicited. The information on where the children were born, whether at home or in some health facility, and if in some health facility then whether the facility was private or public was collected from the mothers. Information over place of birth of the youngest child born during last five years has been cross-classified by women's background characteristics and has been furnished in Table 5.1

Perusal of the Table 5.2 reveals that still 38 percent of the women (1818/4729) have delivered their last child at home during last five years. Thus, home deliveries of this magnitude still reflects that availing of institutional facilities for delivery care is still far from the target of 80% institutional deliveries by 2010 enshrined in our National Population Policy document (NPP, 2002).

Perusal of bar diagrams reveals proportionate women in younger ages groups have less of home deliveries compared with women in higher age groups. Further, there seems to non-linear linkage between age of mother and home deliveries as women in younger age groups depict higher utilization of institutional delivery care, whether public or private, compared with mothers in higher age groups. Home delivers amongst educated women are less compared with illiterate and less educated women. Thus, more educated women depict higher tendency of utilizing institutional deliveries compared with less educated or illiterate. However, women from higher or lower income households don't depict any fixed pattern in terms of utilization of institutional deliveries. In other words income depicts no impact on utilization of home or institutional deliveries. Nevertheless, women from households living in *pucca* compared with *kachha* houses depict higher tendency of using public as well as private health facilities for the delivery care. Role of ASHA again turns up to crucial in promoting institutional deliveries as home deliveries get reduced in areas where she visits the households more frequently, carries kit for free distribution of medicines and provide counselling on obstetric matters. Further women from households having separate toilet facility and clean drinking water facilities within residential premises depict higher tendency of using public health institutions for the delivery care. However, program factors like holding of village health and sanitation committee meetings or village health and nutrition days in the villages don't depict much impact in promotion of institutional deliveries. Interestingly, proximity to FRUs i.e. DHs or CHCs, depict strong impact in promoting institutional deliveries, especially utilization of public health facilities.

Postnatal Care

The well-being of a mother and the newborn child depends not only on the care she receives during pregnancy and delivery, but also on the type of care she and the newborn infant receives during the first few weeks after delivery. The structured schedule canvassed with mothers having children 0-5 years for the postnatal check-ups and sources from where these women had these check-ups was also elicited.

Perusal of Table 5.3 reveals that around 51% of mothers (2393/4725) who delivered child in last five years have not availed any postnatal care. Utilization of postnatal care by women's education reveals that effect of education is quite significant towards promotion of utilization of post natal care from public health institutions. It is of interest to note that women who had experienced any complications in the childbirth depict higher tendency of using postnatal care compared with women who had no delivery complications. Further, women from higher income households also depict higher utilization of postnatal care from public health institutions. Rather, proportionate utilization of private health facilities for postnatal care improves faster amongst women from higher income households. Women from households amenities having separate toilet facility characterizing better sanitation conditions also depict higher tendency of utilization both public as well as private health care facilities for the postnatal care. Role of ASHA in promoting postnatal care also turns out to be significant in the sense that women from households where ASHA makes regular and more frequent visits depict higher tendency of using the public as well as private health facilities for the postnatal care. Again if public health facility like PHC is more distant then the utilization of health facility for the postnatal care also goes down. Thus, proximity of the health facility is turning out to be an important factor for utilization of public health facility for antenatal as well as postnatal care. As per general expectations utilization of postnatal care is higher amongst women who are more educated, who had experienced any delivery complications, from households where ASHA has visited more frequently and has provided counselling on obstetric care, who are near to the public health facility especially PHC, etc.

Child Health Care and Immunization

Reduction in Infant, both neonatal and post neonatal components, and Child mortality has been an important objective of NRHM initiatives. A holistic policy intervention to promote child survival in NRHM comprises of new born care, both home and facility based, proper counselling and widespread messages on proper breast feeding practices, and food supplementation at the right time and a complete package of immunization for children. Immunization programme being a key intervention for protection of children from life threatening and preventable diseases predominantly facilitates reduction in post neonatal component of infant mortality. Thus, proper breast feeding, nutritional supplementation and complete immunization package envisages reduction in infant and child mortality.

In India, children are supposed to be vaccinated for six serious but preventable diseases – tuberculosis, diphtheria, Pertusis, tetanus, poliomyelitis and measles. The structured schedule canvassed with the mothers having children 1-5 years were enquired whether they got their children vaccinated for the scheduled vaccines or not, and if got vaccinated then which ones and also the source of getting the children vaccinated, whether private or public health facilities.

Child Immunization

It would be interesting to observe that around 99 percent of children born during last five years had been administered with at least vaccination whereas 61 percent were administered with Measles. Thus, complete immunization seems to still lacking and drop outs are substantial during the course of full vaccination period which is supposed to be complete by around 9 months of child's age. The analysis for linkages has been conducted only for the youngest child born during last five years numbering 4729. Further, analysis has been drawn for complete immunization vs. partial immunization or no immunization. Perusal of Table 5.4 reveals that 59% of the youngest children during last five years have been fully vaccinated.

Perusal of Table 5.4 and bar-diagrams furnishing the extent of complete coverage vs. partial coverage of immunization by background characteristics reveals that education again plays an important role as proportionate women with higher education depict higher utilization of complete immunization compared to partial immunization. Extent of complete immunization of children is higher where mothers had some complications during their delivery. Role of village health and sanitation committees or holding of village health and nutrition days don't depict any impact on promoting complete vs. partial vaccination. Women from higher income households are found to be going more for full immunization of children compared with women from poorer households. Coming to role of ASHA again higher proportion of women from households where ASHA's visits are more frequent depict to have higher tendency for complete immunization of their children vs. partial immunization compared with households where the visits are less frequent. Again proximity to PHC plays an important role in increasing complete immunization compared with partial immunization of children.

Family Planning

India was the first to launch an official family planning programme in 1952 with an objective of accelerating population stabilization process. The Family Planning division has been formulating many interventions for increasing contraceptive choices to meet the unmet need of contraception. The Ministry of Health and Family Welfare has been emphasizing in provision of quality contraceptives being need-based and client-centered. The NRHM initiatives and recent thinking in Ministry of Health and Family Welfare on repositioning the Family Planning Programme are meant not just for achieving population stabilization but also substantially reducing maternal mortality and infant and child mortality and morbidity. Thus, family planning is more or less considered to be an important measure to improve maternal health, which definitely gets influenced by more frequent and unwanted births.

An important initiative is to improve contraceptive use on voluntary basis through a comprehensive package of improved accessibility to quality contraceptives, both temporary and permanent, and incentive programmes to improve healthy married life and also to accelerate the population stabilization process. Hitherto, literature suggests that family planning methods utilization is most cost effective way of controlling population. There is enough evidence to substantiate that usage of fertility control methods improves women's health and thus facilitates women's empowerment too. Thus, family planning can also be adjudged as women's health improvement measure and concomitantly accelerate the population stabilization process in India.

Family planning services in India are provided mainly by government or municipal hospitals and urban family welfare centers in urban areas and through public health facilities like DHs, CHCs, PHCs, and SCs in rural areas. Role of ANMs and ASHAs is promotion of family

planning as health activists is also crucial towards increased usage of contraceptive methods in rural areas. The structured schedule on family planning methods was canvassed with all the selected women to elicit whether they are using any method or not and if using then whether the method used is temporary or permanent, and also the source of availing the family planning services, whether private or public. Use of contraceptive methods was reported by 54% of the couples and out of the users we found that 88% had availed government health facilities for contraception services. Interestingly we found majority of the users were motivated by ASHA and 46% out of 88% had reported the source of contraception to be ASHA/ANM/VHW.

Perusal of Table 5.5 and bar diagrams, providing usage of contraception by background characteristics, reveals that No-use of contraception is quite high until having at least one son and drops significantly after having two sons. Thus, son-preference still seems to be deeply rooted in India's rural society. Further, usage of temporary methods of contraception remains high until couples has one son, irrespective of family size. Further, usage of permanent methods of contraception improves very fast after having two sons. Women from higher income households depict somewhat better utilization of temporary as well as permanent methods of contraception. Role of ASHA's frequent visits, counselling and distribution of medicines/contraceptives depicts significant improvement in promotion of usage of contraception from Government facilities. Further, proximity to PHC is also discerned to play an important role in promoting usage of contraceptive methods amongst rural couples.

Chronic Disease Control Services

Several National Health Programmes for controlling Cancer, Mental Health, use of Tobacco, Diabetes, Cardiovascular Diseases and Strokes, Deafness, Flores's, etc. have been under the umbrella of NRHM. Several initiatives like strengthening of existing and opening of new regional centers, critical human resource development, improving Information and Communication network (IEC), better surveillance, improved video conferencing facilities, more budgetary funds, laboratories, and call centers have been undertaken. Apart from these we have usual the National Disease Control programme comprising of alleviation and control of crucial chronic diseases like Malaria, Kala-Azar, Filariasis, Cataract, Leprosy, Tuberculosis, Hepatitis, Cholera, etc. The household survey had selected at 5 households in each village with an objective criterion of at least one member who had suffered from some chronic disease and sought treatment for the purpose. Earlier we found that 1566 persons suffering from the Chronic Diseases were identified and information was sought about the treatment, source of treatment, type of treatment/medicines (AYUSH), etc. was elicited about the suffering respondents numbering 1534. Further, 34 percent of these chronic patients had reported suffering from Tuberculosis, and around 53 had reported suffering from diabetes, joint pains and blood pressure.

Perusal of Table 5.6 and bar-diagrams under Utilization of Chronic Disease Services by background factors reveals that around 74% of the patients sought treatment from public health institutions and 26% from private health institutions. Those who sought treatment from private health institutions reported reasons for the purpose were that they get better treatment in private health institutions and non-availability of critical medicines in the public health institutions. It would be of interest to mention that higher proportions of patients aged 50+ seek treatment from private compared to government sector. Surprisingly, greater proportion of higher educated patients seeks treatment from public compared to private health institutions. Also, great proportion of patients from higher income households seek treatment from public compared with private health institutions. Similarly, higher proportion of patients from better type of houses i.e.

pucca vs. kachha; seek treatment from public compared with private health institutions. Possibly, more of chronic patients who are educated and belong to households with higher incomes, better housing facilities like having pucca houses, having separate toilet facility and potable drinking water within the residential premises, are utilizing more of public compared to private health facilities for treatment. Further, role of ASHA seems to important as patients from households which are visited more frequently and where free medicines get distributed depict higher tendency of using public compared with private health facilities for treatment of chronic diseases. Similarly households where general counselling on health matters is provided by ASHAs and other health functionaries report higher utilization of public health institutions for the purpose of treatment. Similarly, patients from areas where village health and sanitation committees are functional also report higher utilization of public compared with private health facilities for treatment of chronic diseases. Thus, role of program factors especially role of ASHAs and VHSCs seems to be important in motivating patients suffering from chronic diseases to make use of public health care facilities for treatment. Once again proximity to FRUs; whether DH or CHC upgraded PHC, also make significant difference in their utilization by patients suffering from chronic diseases.

Table 5.1: Bivariate Table for Utilisation of Ante-Natal Care by Background Characteristics

	No Use	Govt.	Pvt.	Total
Women Education				
Illiterate	51.9%	35.5%	44.3%	39.5%
Primary/Middle	35.0%	46.1%	32.8%	43.1%
Matriculation & above	13.2%	18.4%	23.0%	17.4%
Per earner income				
0-24000	45.6%	42.9%	54.1%	43.9%
24001-48000	37.5%	45.0%	29.5%	42.7%
48001+	16.9%	12.1%	16.4%	13.3%
Type of Household				
Kachha	38.4%	30.0%	37.7%	32.1%
Pucca	61.6%	70.0%	62.3%	67.9%
Household having Separate Kitchen				
No	53.0%	55.4%	68.9%	55.4%
Yes	47.0%	44.6%	31.1%	44.6%
Household having Separate Toilet facility				
No	44.7%	33.9%	41.0%	36.6%
Yes	55.3%	66.1%	59.0%	63.4%
Source of Drinking Water				
No	48.4%	33.0%	32.8%	36.4%
Yes	51.6%	67.0%	67.2%	63.6%
Fuel used for cooking BD				
LPG & Other	6.6%	15.8%	13.1%	13.7%
Wood & Duncake	93.4%	84.2%	86.9%	86.3%
Visit of ASHA/VHN				
Above fortnightly	38.7%	41.1%	39.3%	40.5%
Upto fortnightly	61.3%	58.9%	60.7%	59.5%
Visit of ASHA/VHN carrying Medicines				
No	26.1%	14.2%	42.9%	17.8%
Yes	73.9%	85.8%	57.1%	82.2%

	No Use	Govt.	Pvt.	Total
ASHA/VHN counselling for sanitation				
No	30.9%	16.9%	44.6%	21.0%
Yes	69.1%	83.1%	55.4%	79.0%
VHND				
No	51.9%	56.5%	41.0%	54.9%
Yes	48.1%	43.5%	59.0%	45.1%
VHSC				
No	63.6%	54.9%	75.4%	57.6%
Yes	36.4%	45.1%	24.6%	42.4%
Distance of PHC from Village				
0-5 km.	23.2%	45.1%	21.3%	44.4%
6-10 km.	30.9%	29.2%	44.3%	30.2%
More than 10 km.	45.8%	25.6%	34.4%	25.4%
Total Number	349	1,174	61	1,584
Total Percent	100.0%	100.0%	100.0%	100.0%

Table 5.2: Bivariate Table for Utilisation of Delivery Care by Background Characteristics

	Home Delivery	Govt. Place	Pvt. Place	Total
Age Group				
18-19 years	1.7%	0.7%	0.4%	1.1%
20-24 years	25.7%	40.7%	36.3%	34.7%
25-29 years	43.6%	40.3%	43.3%	41.8%
30+ years	29.0%	18.3%	20.1%	22.5%
Women Education				
Illiterate	48.4%	32.7%	32.4%	38.7%
Primary/Middle	41.1%	47.9%	40.1%	44.8%
Matriculation & above	10.5%	19.4%	27.5%	16.5%
Per earner income				
0-24000	44.4%	43.4%	47.5%	44.0%
24001-48000	42.9%	45.2%	40.8%	44.0%
48001+	12.7%	11.5%	11.6%	11.9%
Type of Household				
Kachha	39.5%	28.8%	23.2%	32.6%
Pucca	60.5%	71.2%	76.8%	67.4%
Household having Separate Kitchen				
No	64.2%	56.8%	58.1%	59.7%
Yes	35.8%	43.2%	41.9%	40.3%
Household having Separate Toilet facility				
No	41.0%	28.2%	34.2%	33.5%
Yes	59.0%	71.8%	65.8%	66.5%
Source of Drinking Water				
No	35.3%	33.4%	41.5%	34.6%
Yes	64.7%	66.6%	58.5%	65.4%
Fuel used for cooking BD				
LPG & Other	10.6%	12.6%	22.9%	12.4%

	Home Delivery	Govt. Place	Pvt. Place	Total
Wood & Duncake	89.4%	87.4%	77.1%	87.6%
Visit of ASHA/VHN				
Above fortnightly	57.9%	35.7%	41.2%	44.6%
Upto fortnightly	42.1%	64.3%	58.8%	55.4%
Visit of ASHA/VHN carrying Medicines				
No	21.3%	13.8%	19.9%	17.0%
Yes	78.7%	86.2%	80.1%	83.0%
ASHA/VHN counselling for sanitation				
No	30.6%	20.2%	25.0%	24.4%
Yes	69.4%	79.8%	75.0%	75.6%
VHND				
No	46.4%	60.9%	45.1%	54.4%
Yes	53.6%	39.1%	54.9%	45.6%
VHSC				
No	64.6%	55.9%	70.1%	60.1%
Yes	35.4%	44.1%	29.9%	39.9%
Distance of CHC/DH (FRU) from Village				
0-20 km.	27.2%	46.1%	37.3%	43.7%
21-40 km.	31.6%	30.3%	39.1%	31.3%
More than 40 km.	41.3%	23.6%	23.6%	25.0%
Total Number	1,818	2,627	284	4,729
Total Percent	100.0%	100.0%	100.0%	100.0%

Table 5.3: Bivariate Table for Utilisation of Post Natal Care by Background Characteristics

	No	Govt.	Pvt.	Total
Women Education				
Illiterate	45.3%	31.2%	41.5%	38.7%
Primary/Middle	42.2%	48.7%	27.7%	44.8%
Matriculation & above	12.4%	20.1%	30.8%	16.5%
Delivery Complication				
Normal	97.4%	93.4%	86.9%	95.3%
Complicated	2.6%	6.6%	13.1%	4.7%
Per earner income				
0-24000	42.7%	45.5%	40.8%	44.0%
24001-48000	44.6%	43.6%	41.5%	44.1%
48001+	12.6%	10.8%	17.7%	11.9%
Type of Household				
Kachha	35.6%	29.4%	29.2%	32.6%
Pucca	64.4%	70.6%	70.8%	67.4%
Household having Separate Kitchen				
No	60.2%	59.0%	60.0%	59.6%
Yes	39.8%	41.0%	40.0%	40.4%
Household having Separate Toilet facility				
No	37.4%	28.5%	42.3%	33.4%
Yes	62.6%	71.5%	57.7%	66.6%

	No	Govt.	Pvt.	Total
Source of Drinking Water				
No	34.9%	33.7%	42.3%	34.5%
Yes	65.1%	66.3%	57.7%	65.5%
Fuel used for cooking BD				
LPG & Other	10.8%	13.5%	23.1%	12.4%
Wood & Dungcake	89.2%	86.5%	76.9%	87.6%
Visit of ASHA/VHN				
Above fortnightly	52.4%	36.4%	39.2%	44.6%
Upto fortnightly	47.6%	63.6%	60.8%	55.4%
Visit of ASHA/VHN carrying Medicines				
No	21.2%	12.5%	20.0%	17.1%
Yes	78.8%	87.5%	80.0%	82.9%
ASHA/VHN counselling for sanitation				
No	28.4%	19.9%	29.6%	24.4%
Yes	71.6%	80.1%	70.4%	75.6%
VHND				
No	50.8%	59.2%	43.8%	54.5%
Yes	49.2%	40.8%	56.2%	45.5%
VHSC				
No	64.8%	53.7%	77.7%	60.0%
Yes	35.2%	46.3%	22.3%	40.0%
Distance of PHC from Village				
0-5 km.	26.7%	47.2%	35.4%	43.7%
6-10 km.	32.4%	29.6%	40.8%	31.3%
More than 10 km.	40.9%	23.2%	23.8%	25.0%
Total Number	2,393	2,202	130	4,725
Total Percent	100.0%	100.0%	100.0%	100.0%

Table 5.4: Bivariate Table for Utilisation of Children Immunization by Background Characteristics

	Any/No Vaccination	Full Vaccination	Total
Women Education			
Illiterate	42.4%	36.1%	38.7%
Primary/Middle	41.9%	46.9%	44.8%
Matriculation & above	15.7%	17.0%	16.5%
Per earner income			
0-24000	44.3%	43.8%	44.0%
24001-48000	43.1%	44.7%	44.0%
48001+	12.6%	11.5%	11.9%
Type of Household			
Kachha	32.8%	32.5%	32.6%
Pucca	67.2%	67.5%	67.4%
Visit of ASHA/VHN			
Above fortnightly	40.1%	47.7%	44.6%
Upto fortnightly	59.9%	52.3%	55.4%
ASHA/VHN counselling for sanitation			
No	27.3%	22.4%	24.4%

	Any/No Vaccination	Full Vaccination	Total
Yes	72.7%	77.6%	75.6%
VHND			
No	49.9%	57.5%	54.4%
Yes	50.1%	42.5%	45.6%
VHSC			
No	65.0%	56.7%	60.1%
Yes	35.0%	43.3%	39.9%
Place of Delivery			
Home	32.7%	42.4%	38.4%
Institutional	67.3%	57.6%	61.6%
Distance of PHC from Village			
0-5 km.	41.5%	45.3%	43.7%
6-10 km.	32.4%	30.6%	31.3%
More than 10 km.	26.1%	24.2%	25.0%
Total Number	1,938	2,791	4,729
Total Percent	100.0%	100.0%	100.0%

Table 5.5: Bivariate Table for Utilisation of Family Planning Services by Background Characteristics

	No Use	Temporary Method	Permanent Method	Total
Number of Living Sons				
0	31.4%	1.9%	0.9%	14.1%
1	49.2%	60.1%	48.4%	53.4%
2	15.9%	29.1%	38.9%	25.3%
3+	3.5%	8.9%	11.8%	7.2%
Per earner income				
0-24000	46.8%	37.1%	42.6%	42.4%
24001-48000	40.3%	44.7%	46.7%	43.0%
48001+	12.9%	18.2%	10.6%	14.6%
Type of Household				
Kachha	33.7%	31.6%	31.9%	32.6%
Pucca	66.3%	68.4%	68.1%	67.4%
Household having Separate Kitchen				
No	61.3%	57.9%	60.9%	59.9%
Yes	38.7%	42.1%	39.1%	40.1%
Household having Separate Toilet facility				
No	35.1%	35.3%	30.7%	34.5%
Yes	64.9%	64.7%	69.3%	65.5%
Source of Drinking Water				
No	38.1%	35.3%	35.7%	36.7%
Yes	61.9%	64.7%	64.3%	63.3%
Fuel used for cooking BD				
LPG & Other	10.6%	12.7%	14.7%	12.0%
Wood & Dungcake	89.4%	87.3%	85.3%	88.0%
Visit of ASHA/VHN				

	No Use	Temporary Method	Permanent Method	Total
Above fortnightly	44.0%	52.5%	32.8%	45.6%
Upto fortnightly	56.0%	47.5%	67.2%	54.4%
Visit of ASHA/VHN carrying Medicines				
No	17.8%	14.7%	15.1%	16.2%
Yes	82.2%	85.3%	84.9%	83.8%
ASHA/VHN counselling for sanitation				
No	25.9%	23.0%	23.1%	24.4%
Yes	74.1%	77.0%	76.9%	75.6%
VHND				
No	54.0%	52.9%	57.7%	54.1%
Yes	46.0%	47.1%	42.3%	45.9%
VHSC				
No	60.1%	56.4%	57.6%	58.3%
Yes	39.9%	43.6%	42.4%	41.7%
Distance of PHC from Village				
0-5 km.	25.2%	44.1%	45.1%	25.7%
6-10 km.	31.4%	29.0%	30.7%	30.4%
More than 10 km.	43.4%	26.9%	24.2%	43.9%
Total Number	3,460	2,849	1,091	7,400
Total Percent	100.0%	100.0%	100.0%	100.0%

Table 5.6: Bivariate Table for Utilisation of Chronic Disease Services by Background Characteristics

	Pvt.	Govt.	Total
CD Age			
1-24 yrs	11.4%	14.0%	13.3%
25-49	33.1%	43.8%	41.1%
50-74	49.5%	39.5%	42.1%
75+	6.1%	2.6%	3.5%
CD Education			
Illiterate	60.9%	37.3%	43.4%
Primary/Middle	28.0%	49.1%	43.7%
Matric & above	11.1%	13.6%	13.0%
Per earner income			
0-24000	58.8%	41.6%	46.0%
24001-48000	27.8%	40.9%	37.5%
48001+	13.4%	17.6%	16.5%
Type of Household			
Kachha	39.9%	35.5%	36.6%
Pucca	60.1%	64.5%	63.4%
Household having Separate Kitchen			
No	76.5%	73.5%	74.3%
Yes	23.5%	26.5%	25.7%
Household having Separate Toilet facility			

	Pvt.	Govt.	Total
No	40.7%	30.5%	33.1%
Yes	59.3%	69.5%	66.9%
Source of Drinking Water			
No	50.3%	40.3%	42.9%
Yes	49.7%	59.7%	57.1%
Fuel used for cooking BD			
LPG & Other	5.6%	11.2%	9.7%
Wood & Dungecake	94.4%	88.8%	90.3%
Visit of ASHA/VHN			
Above fortnightly	62.9%	55.6%	57.5%
Upto fortnightly	37.1%	44.4%	42.5%
Visit of ASHA/VHN carrying Medicines			
No	19.1%	9.4%	11.9%
Yes	80.9%	90.6%	88.1%
ASHA/VHN counselling for sanitation			
No	47.4%	25.4%	31.0%
Yes	52.6%	74.6%	69.0%
VHND			
No	28.8%	58.3%	50.7%
Yes	71.2%	41.7%	49.3%
VHSC			
No	75.8%	50.4%	56.9%
Yes	24.2%	49.6%	43.1%
Distance of CHC/DH (FRU) from Village			
0-20 km.	17.7%	33.6%	29.5%
21-40 km.	31.1%	26.9%	28.0%
More than 40 km.	51.3%	39.5%	42.6%
Total Number	1,138	396	1,534
Total Percent	100.0%	100.0%	100.0%

Diagram 5.1: Antenatal Care

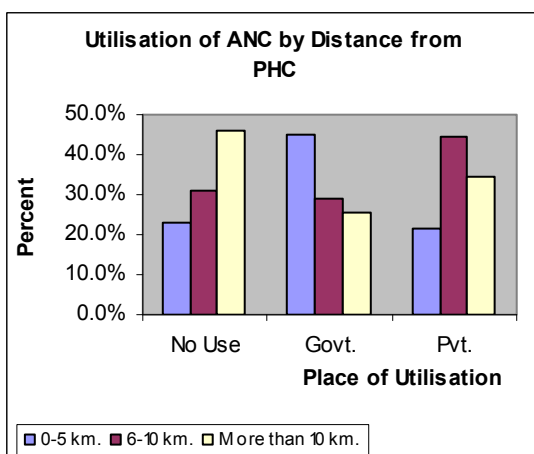
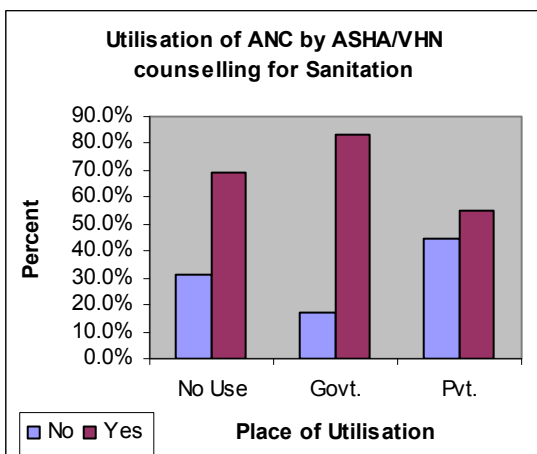
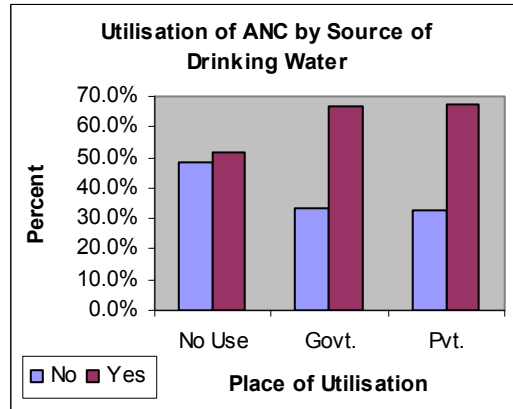
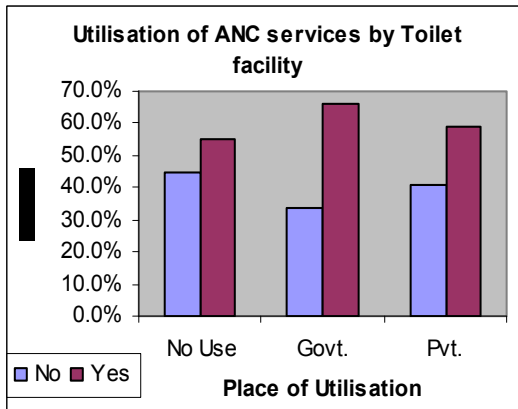
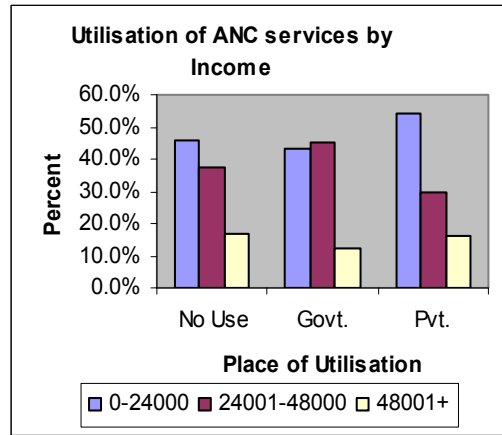
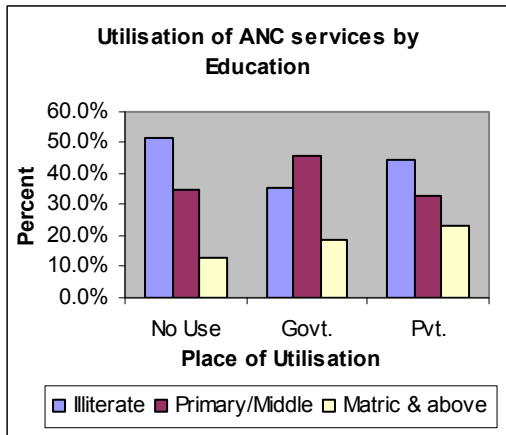


Diagram 5.2: Delivery Care

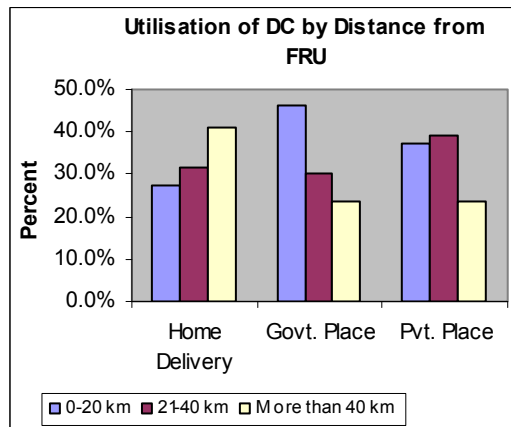
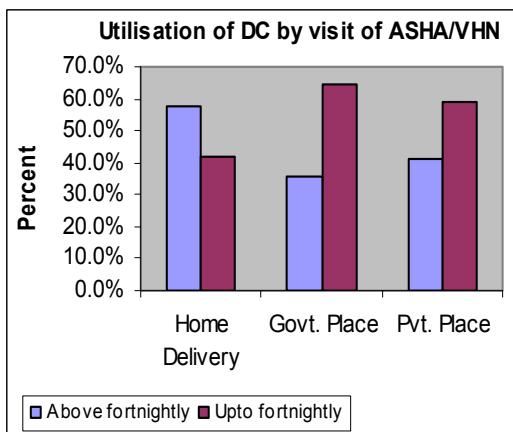
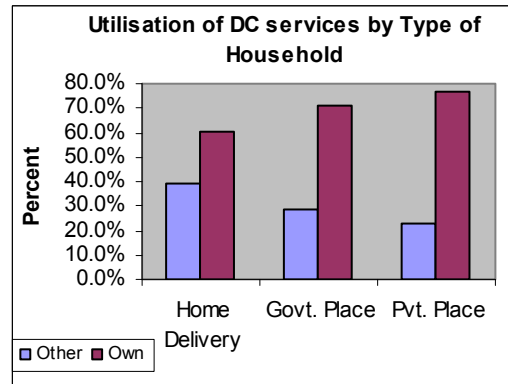
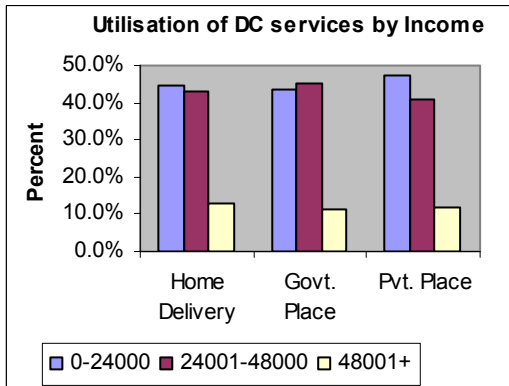
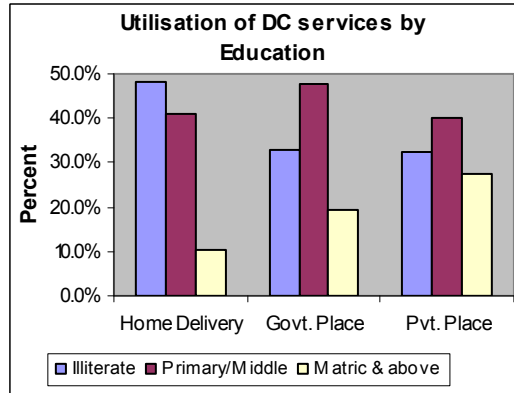
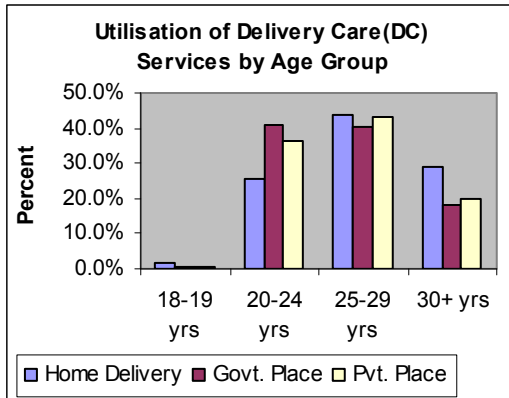


Diagram 5.3: Postnatal Care

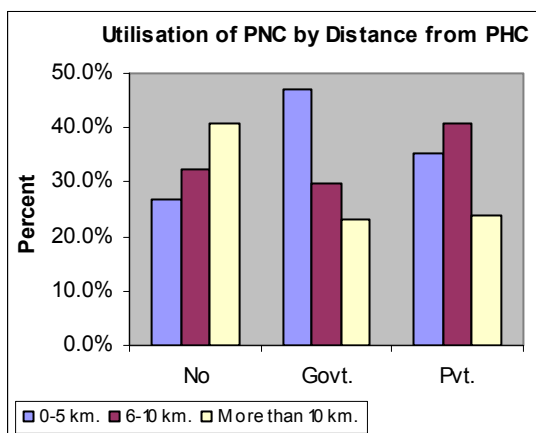
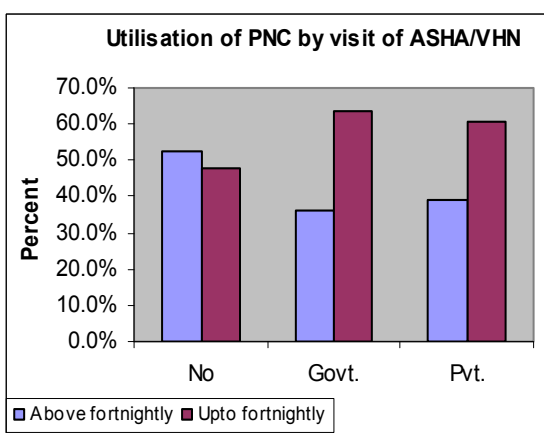
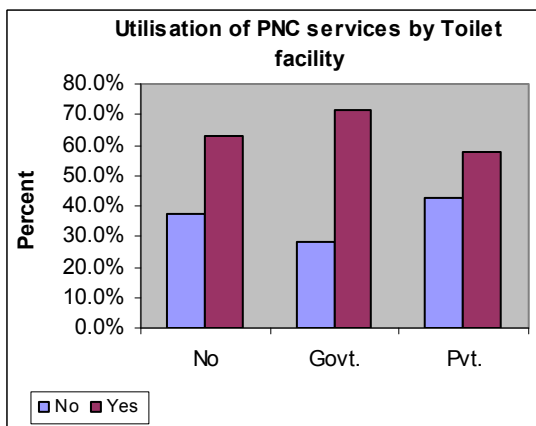
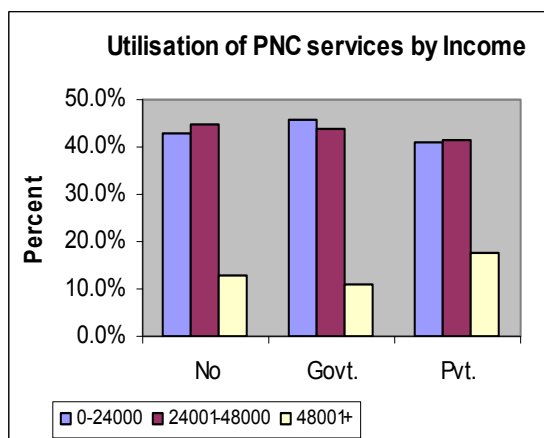
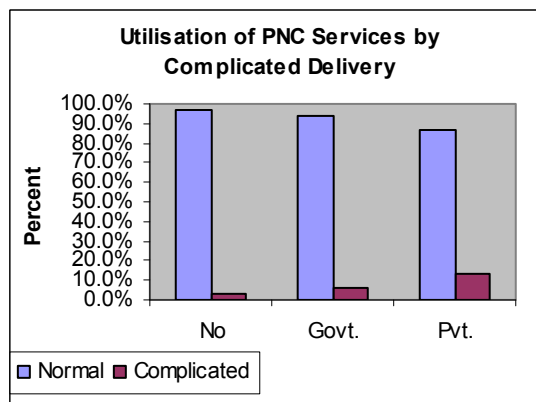
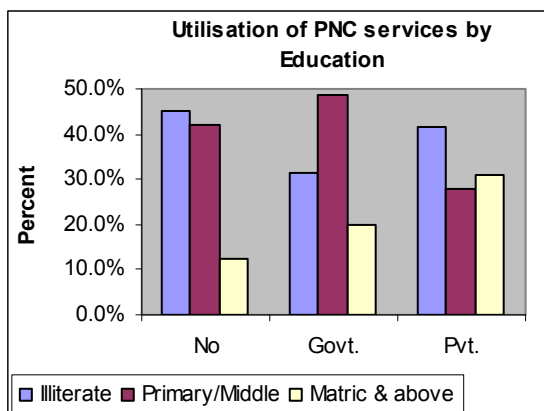


Diagram 5.4: Children's Immunization

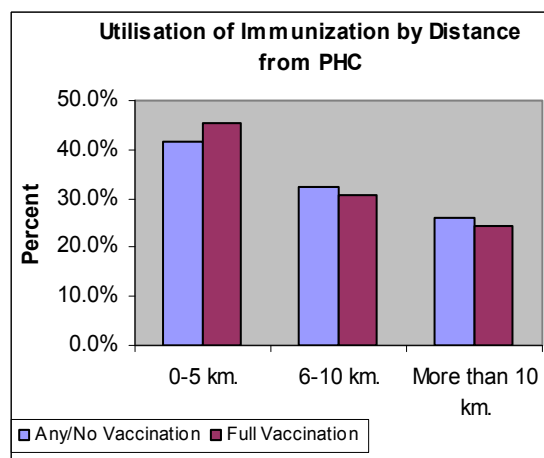
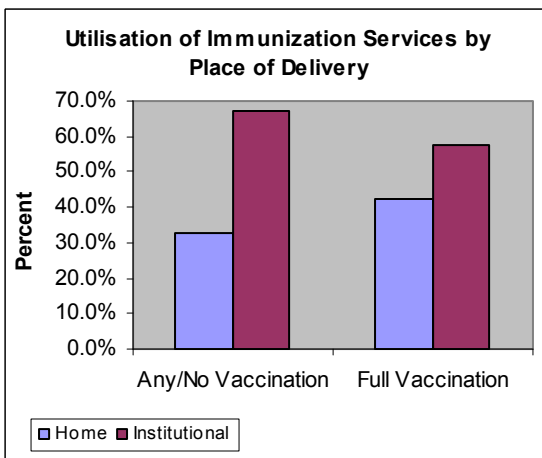
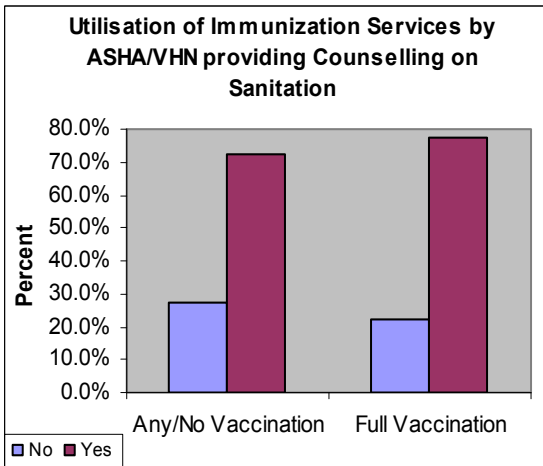
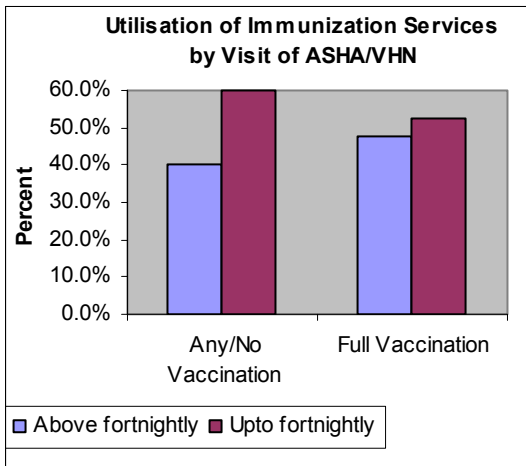
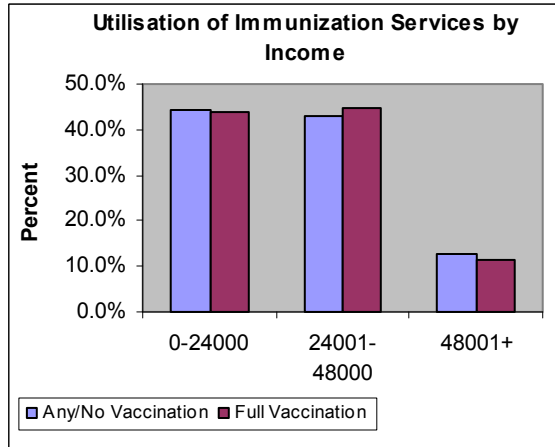
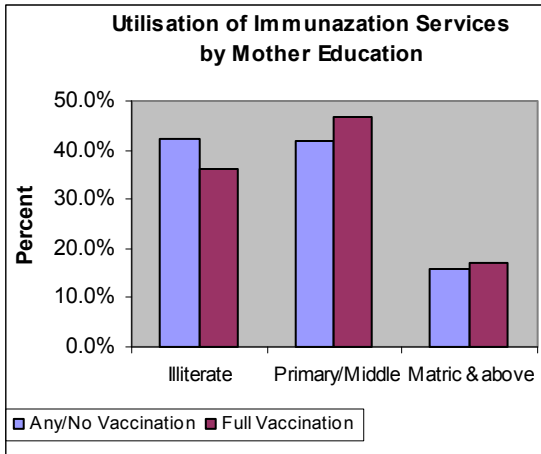


Diagram 5.5: Family Planning Services

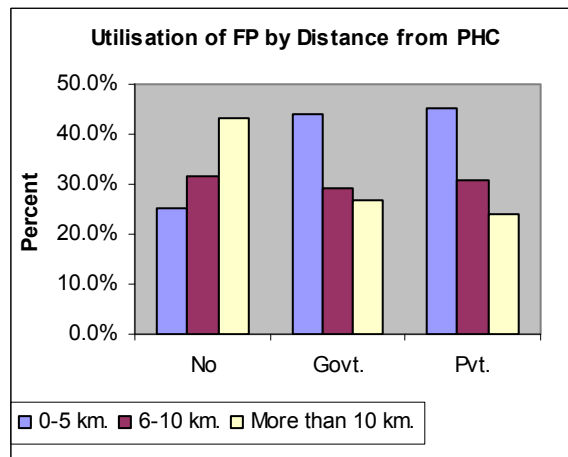
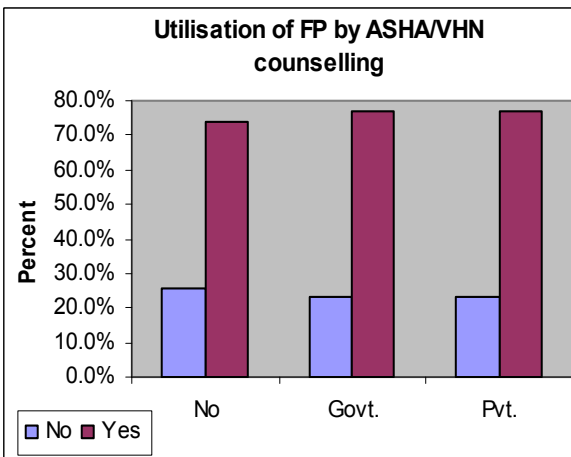
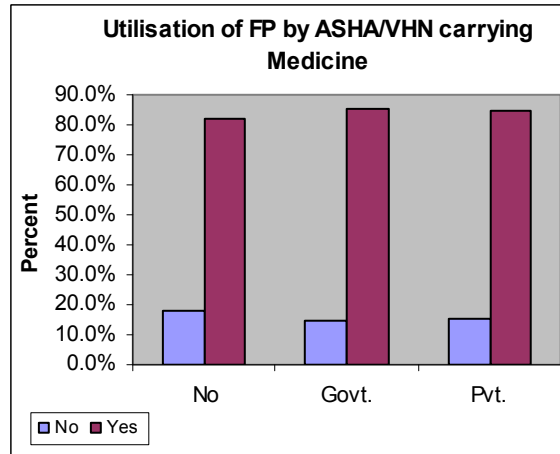
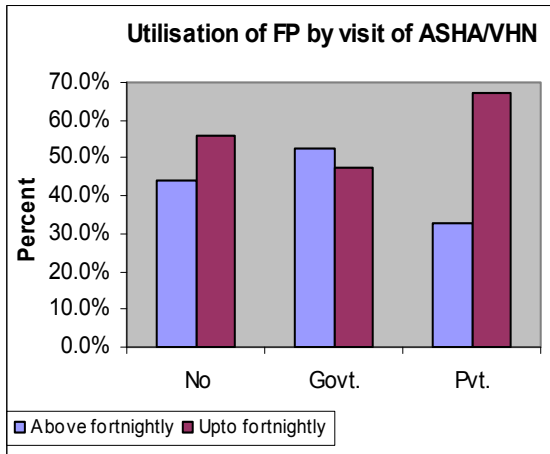
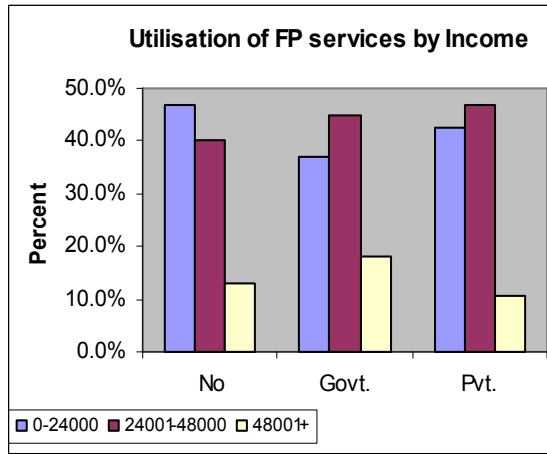
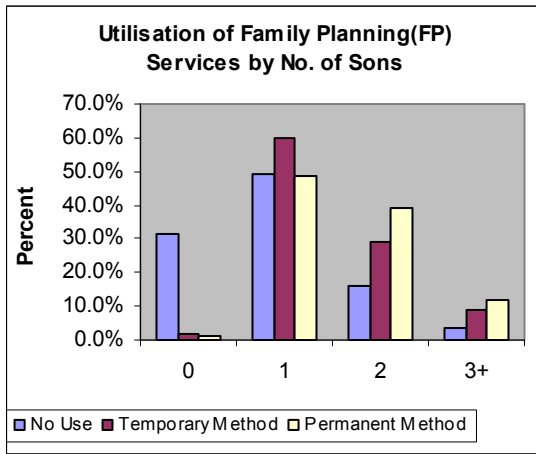
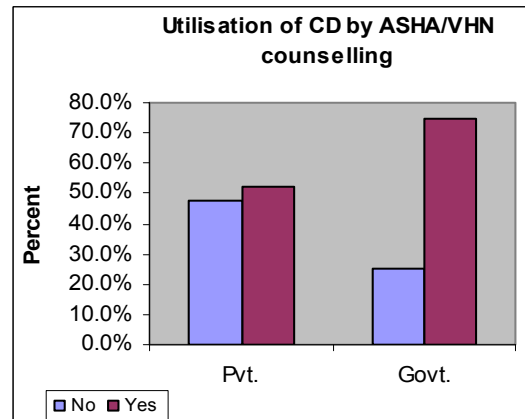
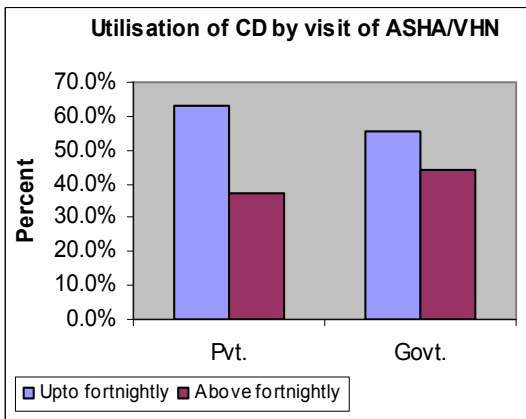
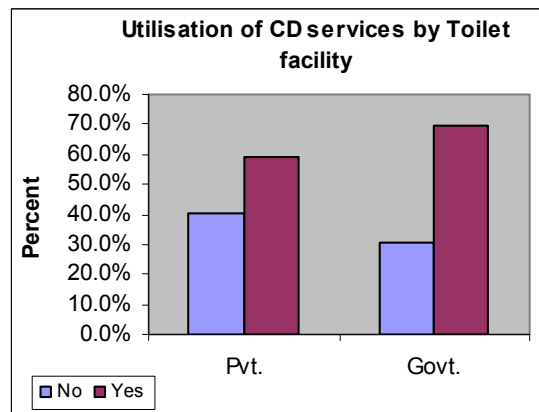
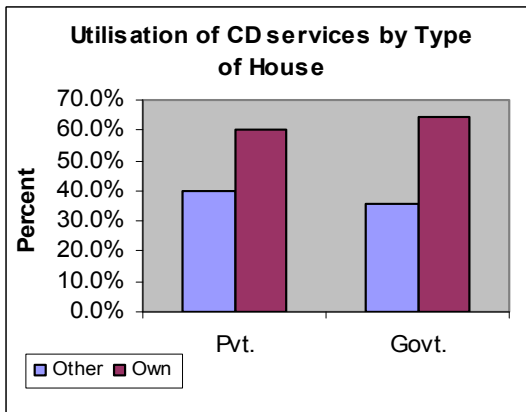
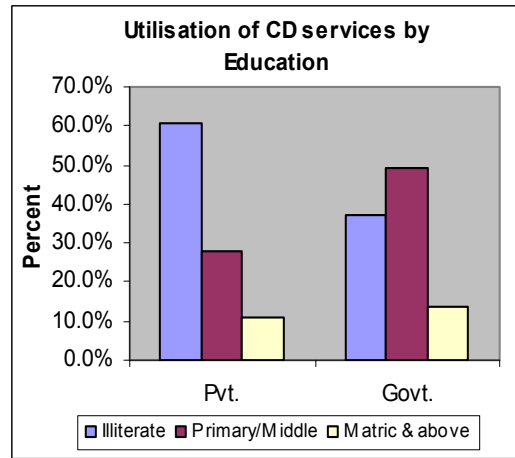
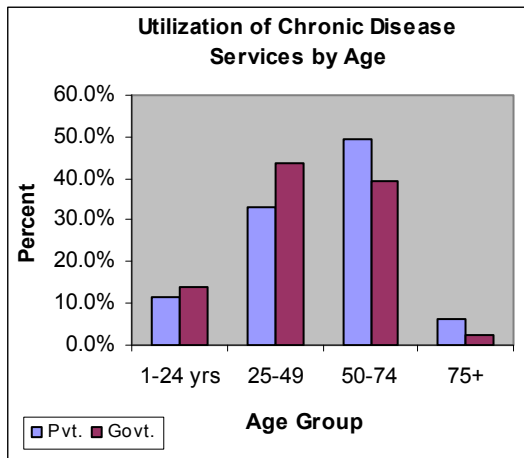


Diagram 5.6: Chronic Disease Services



Chapter 6

MCH Care, Family Planning and Chronic Disease Services Utilization Behaviour in Rural India

Introduction

Reproductive health and rights were deliberated at length in the International Conference on Population and Development (ICPD) in 1994 at Cairo. India being signatory to the UN's resolution at Cairo conference, along with 179 other participating countries, followed its Programme of Action and brought around a major shift in its population policy from earlier contraceptives-mix-target oriented to target-free approach in April 1996, which was streamlined as client-centered-demand driven “community needs assessment” (CNA) approach and renamed as Reproductive and Child Health (RCH) approach in October 1997. The RCH approach comprised critical components like prenatal, delivery and post-natal care for mother, informed choice of quality contraception, basically meant for safe and satisfying sex life, treatment of infertility, adolescent education meant for psychologically preparing adolescents through information, education and communication for sexual and reproductive career, management and treatment of HIV/AIDS, reproductive tract infections (RTIs), sexually transmitted diseases (STDs), etc. These major paradigm shifts in India's population policies were reiterated and enshrined in the National Population Policy document released in 2000 (GoI, 2000).

Reproductive morbidity amongst women refers to any dysfunction of the reproductive tract or any morbidity which is consequence of reproductive behavior including pregnancy, abortions, childbirths, or sexual behavior. Thus, the reproductive morbidity amongst women refers to physical conditions of being unwell, related to reproductive development during childbearing and also outside of childbearing period (WHO, 1989; Zurayk et. al., 1993; Oomman, 2000). The reproductive morbidity can be subdivided into three broad categories – obstetric/maternal morbidity, gynaecological morbidity, and contraception morbidity (Fortney, 1995; Dasgupta, 1995; Sadana, 2000). Obstetric morbidity basically refers to reproductive complications stemming from pregnancy, delivery, and post delivery complications, but not from accidental or incidental causes. Gynaecological morbidity on the other hand covers any condition, disease or dysfunction of the reproductive system related to sexual behaviour or practices. Contraceptive morbidity specifically refers to health problems primarily due to side effects of usage of contraceptive methods, predominantly insertion of Intra-Uterine Device or female sterilization under unhygienic conditions or lack of post operative care.

The National Rural Health Mission (NRHM) launched in 2005 brought focus on provision of healthcare towards improvement in the quality of life, especially amongst underprivileged and underserved groups amongst Indian citizens. Possibly, the underlying presumption in most of such national and international strategic pronouncements over the quality of life or standards of living could be that improvement in the quality of life through provision of quality healthcare, education, women's empowerment, etc. would motivate people to limit their family size and thus fertility regulation and population stabilization processes would get accelerated.

Nevertheless, the report submitted by the working group on population stabilization constituted by the Planning Commission and recent emphasis by the Ministry in repositioning family planning for population stabilization and reproductive morbidity has aptly concluded that “there appears to be an urgent need for bringing back promotion of contraception as the main concern of Family Welfare programmes in the high fertility states of India and thus the couples’ felt need for contraception should be fully met”.

However, promotion of contraception as a fertility control strategy seems to have been consigned to the back burner in India in recent years despite the fact that almost all the empirical studies have demonstrated that contraception had always been the most significant catalytic factor and cost effective strategy for fertility control in almost in all the circumstances. In fact curtailment of unwanted fertility through contraception usage has always been stressed for achieving population stabilization in developing countries (Robey 1996, Westoff, 2000).

The prominent explanations extended for the lack of demand for contraception in developing countries are lack of knowledge about contraception, health concerns, high costs, limited supplies, fear of side effects of contraception methods, familial and societal objections to the usage of contraception, etc. In the Indian context it may be of interest to mention that apart from the fact that the current unwanted fertility being higher the prospective decline in the wanted fertility because of improvements in quality of life would imply increased demand for contraception. It is obvious in the context of hastening the pace of population stabilization processes in the country that a focused attention is given not only to the current substantial unmet need of contraception but also to the prospective increased demand for contraception resulting from the improvements in the quality of life.

Objectives of the Analysis

Despite improvements in utilization of obstetric care, children’s immunization, family planning and chronic disease control services at national level we found substantial regional variations in the utilizations of these basic health services. The survey data elicited over different states with different health care utilization patterns, socioeconomic and demographic characteristics would provide insights and an opportunity to highlight role of different background factors, program factors, etc. for differentials in the utilization process of key NRHM interventions. The study intends to highlight net effects of selected socioeconomic, demographic, cultural and program factors on utilization of obstetric care comprising of antenatal, delivery and postnatal care by currently married women aged 15-49. Hitherto, several efforts have been made in defining quality of care, which can be measured by type of infrastructures, services being provided at the service delivery points and taking client’s views. Much broader definitions with the quality of care comprised of accurate diagnosis, adequate therapy, availability and accessibility and thus client’s perceptions about the quality get translated into its utilization (De Geyndt, 1970, 1995; Esselstyne 1958). Further, the study highlights factors influencing utilization of family planning services by the women from public or private institutions. Finally, the study highlights factors affecting pattern of utilization of public or private health care institutions by persons suffering from any of the chronic diseases.

This section basically highlight linkages between different factors affecting utilization of obstetric care, family planning services and chronic disease treatment from public and private institutions utilizing cross tabular and multinomial logit analytical techniques. We also elicit probabilities of seeking treatment from alternate sources in the multinomial logit model. It may

be pointed out that in the multinomial logit model the multiplicative effect on the odds ratio does not reflect the intensity of impact of different background variables as can be revealed by the probabilities.

Database for the Analysis

Database on selected socioeconomic, demographic and program factors affecting utilization of public and private health facilities for Antenatal, Delivery and Postnatal care, family planning services, and treatment of Chronic Diseases have been utilized from household and facility survey data from 37 selected districts stretched over 7 states of India under the purview of the present study.

Out of 7400 households covered under the study the data on utilization of Antenatal Care has been elicited from 1584 pregnant women. Further, data on utilization Delivery and Postnatal care for the youngest child born in last five years from 4729 currently married women from selected households under study. Further, data on utilization of family planning services from public or private sector has been elicited from 7042 currently married women from the selected households. Finally, data for utilization of public or private sector services for treatment of chronic diseases by 1534 respondents suffering from the diseases also is from the surveyed households.

List of socioeconomic, demographic and program predictor variables alongwith descriptive statistics is furnished in the Appendix Table A.1.

Methodology

The multinomial logit regression technique has been utilized to highlight the net effects of predictor variables comprising of socioeconomic, demographic and program variables; on utilization of public or private health care facilities for obstetric, family planning and chronic disease services.

In the multinomial logit model a positive value of coefficient, say β_1 ensures only increase in the ratio p_1/p_0 , which is possible even when p_1 as well as p_0 are decreasing but decline in p_1 is less than decline in p_0 . Thus, a positive coefficient does not automatically imply increase in p_1 compared with the reference category p_0 , as is the case in binary logit model. Thus, the discussion on effects in the multinomial logit should be based on the elicited probabilities rather than the multiplicative effects on the odds ratios ($e^{\beta_{ik}}$) or the effects on the Logs of Odd- ratios (β_{ik}).

The multinomial logit regression model specified in log-odds form would consist of four equations plus a constraint as follows:

$$\text{Log}(P_i/P_0) = \alpha_i + \sum \beta_{ik} X_k; (i=1, \dots, 3, k=1, \dots, M) \text{ -----1}$$

And the constraint as;

$$\sum P_i + P_0 = 1; (i=1,2) \text{ -----2}$$

Where P_i/P_0 is interpreted as the odds-ratio, α_i 's and β_{ik} 's are the multinomial logit regression coefficients and X_k 's are the M predictor variables in the system.

The quantities P_1/P_0 and P_2/P_0 are interpreted as odds-ratios, which are not strictly the odds as in the binary logit regression model, as numerator and denominator of the odds in the

multinomial logit regression do not necessarily sum to one. In fact, each of these odds has for its denominator the probability of the reference category (P_0) of the response variable, and P_1 and P_2 are the probabilities of the other categories of the response variable.

The multinomial logit model in the present study is fitted with the maximum likelihood method. We choose the values of the coefficients (α 's and β 's) to maximize the likelihood function. The estimated multinomial logit regression coefficients in turn can be used to estimate probabilities of respondents in the relevant categories under study as follows:

$$P_1 = P_0 e^{(\alpha_1 + \beta_{11} X_1 + \beta_{12} X_2 + \dots + \beta_{1k} X_k)} \quad \text{-----} 3$$

$$P_2 = P_0 e^{(\alpha_2 + \beta_{21} X_1 + \beta_{22} X_2 + \dots + \beta_{2k} X_k)} \quad \text{-----} 4$$

Where P_0 is the probability of no-use of any health care facility for the reference category:

$$P_0 = 1 / (1 + \sum e^{\alpha_i + \beta_{i1} X_1 + \beta_{i2} X_2 + \dots + \beta_{ik} X_k}; i=1,2) \quad \text{-----} 5$$

The effects of the predictor variables on the response variable have been presented in the form of estimated probabilities based on parametric estimates in the present study.

The odds-ratios or logs of odds-ratios in the multinomial logit model needs cautious interpretation as logs of odds-ratios in the multinomial logit model may not necessarily ensure increase or decrease in the odds-ratios or probabilities. In the binary logit regression model the sum total of probabilities in numerator and denominator add upto one and hence log of the odds-ratios (Ω s) and odds-ratios (Ω s) become monotonically increasing functions of probabilities (P_j 's). In the multinomial logit regression analysis the sum total of probabilities in numerator and denominator do not add upto one and thus the logs of odds-ratios and odds-ratios may not be monotonically increasing or decreasing functions of the probabilities¹.

The reference category for the multinomial logit model is eligible women for utilization of obstetric care but didn't utilize any services for the purpose. For response variables viz. Antenatal, Delivery, Postnatal care utilization; the reference category is always no-use and other two categories are use of public and private health facilities, respectively. For family planning the response variable has been categorised into three mutually exclusive and exhaustive categories with no-use as reference category and other two categories are usage of temporary and permanent methods, respectively. For the treatment of Chronic Disease the response variable has been categorised into the three categories viz. no-treatment as reference category and use of Public/Government health institutions and private health institutions has second and third category.

The multiplicative effects in the form of elicited parametric estimates on the odds-ratios in the multinomial logit model² need cautious interpretations as increasing odds ratios may not

¹ Proper interpretations of odds-ratios or logs of odds-ratios in the multinomial logit regression analysis and other finer details are provided in author's earlier study using the multinomial logit regression technique (Gulati, 1996b). For further details on formulations, estimation procedures and proper or cautious interpretations of the odds-ratios in multinomial logit regressions one can look in literature, especially Retherford's statistical models for Causal Analysis (Retherford, 1993).

² Proper interpretations of increase or decrease in odds-ratios in the multinomial regression analysis are provided in author's earlier study (Gulati, 1996). For further details on formulations, estimation procedures and proper or cautious interpretations of the multiplicative effects in the multinomial logit model one can look in technical literature on the causal analysis (Retherford, 1993).

necessarily ensure increase in probability of the response category compared with the reference category, as is the case in binary logit model. In the binary logit model the sum of the probabilities in the numerator and denominator add up to one and hence increase in odds-ratio automatically imply increase in the probability, as the probability is monotonically increasing function of the odds-ratio. Whereas, in the multinomial logit model the sum of probabilities in the numerator and the denominator do not add up to unity and thus increase in odds-ratio could be possible even when both the probabilities in numerator and denominator are decreasing with proportionate decline in numerator being less than proportionate decline in the denominator.

Antenatal Care (ANC) Utilization Behaviour

Parametric estimates of the two sets of multinomial regression coefficients (β_{ik} 's) and their levels of significance (μ_i) of selected background factors on the logs of odd ratios ($\text{Log}P_i/P_0$) pertaining to utilization of antenatal care (ANC) from public medical sector vis-à-vis no use, and utilization of private medical sector vis-à-vis no treatment from 1584 pregnant women are presented in Table-1. Further, adjusted probabilities of no-use of antenatal care (P_0), using public sector health facilities (P_1) and using private sector medical sector (P_2) by women with different background characteristics, while accounting for other predictor variables under purview, are elicited by using the parametric estimates of the regression coefficients and averages of other predictor variables are presented in Table-2.

MULTINOMIAL LOGIT REGRESSION RESULTS FOR ANC UTILIZATION BEHAVIOUR

Women's education (WEDN) depicts significant and positive impact on utilization of antenatal care from public as well as private sector health facilities. Perusal of Table 6.1 reveals that positive effect of women's education on utilization of antenatal care from private health facilities turns out to be higher compared to the utilization of public health care facilities. Alternatively, utilization of private health care facilities for antenatal care improves faster amongst educated women compared with the utilization of public health facilities. This could be possibly because of perceptions among better education women about better quality of healthcare in private compared to public health facilities.

Household's per earner income (HPEI) depicts positive and significant effect on utilization of antenatal care amongst rural pregnant women from public health care facilities. Interestingly income effect on utilization of private health care facilities from private health care facilities turns out to be insignificant. Alternatively, women in higher income households in rural areas are utilizing public sector health for obstetric care, while accounting for other socioeconomic and program factors influencing the ANC care seeking behaviour. Similarly, other household economic status variables like ownership of the house (TOHBD), having separate kitchen (SKF) and toilet facility (STF) in the house also significant and positive impact on the utilization of antenatal care from public health care facilities. Thus, households with better sanitation conditions characterizing perception of cleaner environment in the house also depict higher likelihood of using antenatal care facilities during pregnancy of women in the households (Vera, 1993; Verma, Roy and Saxena, 1994). The results clearly suggest the bettering of economic conditions or improvements in living standards of rural households would facilitate better utilization of public health care facilities for obstetric care like ANC during pregnancy.

ASHA's role in motivating pregnant women for utilization of antenatal care from public health care facilities turns out to be positive and highly significant. All the variables pertaining to the ASHA's role and responsibilities/activities like visit to households (ASHAVBD), carrying

and distribution of free medicines (ASHAMBD), and sensitizing/counselling with women on sanitation and obstetric care (ASHASBD) depict positive and highly significant on the utilization of antenatal care from the public sector health care facilities. Interestingly, the ASHA's role does not depict any negative impact on the utilization of private health care facilities for obstetric/ANC care in the rural areas. Apparently ASHA's role in motivating rural women for utilization of public health care facilities for obstetric care turns out to be very important.

Holding Village Health and Nutrition Day (VHND) as well as role of Village Health and Sanitation Committees in rural areas don't depict impact in motivating pregnant women for utilization of Antenatal care from public or private health facilities. Possibly, the role of nutrition facilitating improvement in the health of pregnant women comprising an important component of VHND in a village has not been serving the purpose.

Distance of first referral unit (District Hospital/CHC) from the village depicts significant and negative impact on the utilization of ANC from public health care facilities. Alternatively, proximity to health care facility depicts an important criterion for its utilization for the obstetric care by the pregnant women in rural areas. Thus, proximity of availability of obstetric care significantly improves the utilization amongst pregnant women of public health care facilities. Interestingly, women in distant villages from the public health facilities are compelled to utilize the obstetric care from the private health care facilities. One can note that though the estimated coefficient pertaining to distance turns out to be significant and negative but the estimated adjusted probabilities clearly depict that utilization-probability of private health care facilities for ANC care improved alongwith increase in distance from the DH/CHC. It may be noted that though the coefficient pertaining to ANC use of private health facility to no-use is negative but still the estimated probability of use for ANC of the private health facilities improve because of increasing distance from the public health facility like DH or CHC.

Table 6.1: Multinomial Logit Regression Coefficients of Antenatal Care Utilization (ANC), with No-Use as Reference Category

Predictor Variables	ANC Govt. Log(P ₁ /P ₀)		ANC Pvt. Log(P ₂ /P ₀)	
	Coeff. (β _i)	(μ _i)	Coeff. (β _i)	(μ _i)
intercept	1.281	0.01	-1.669	0.11
WEDN	0.135	0.02	0.225	0.04
PEI	0.193	0.00	0.069	0.63
TOHBD	0.213	0.21	0.189	0.60
SKF	0.664	0.00	1.241	0.00
STF	0.071	0.66	0.069	0.84
PDWF	-0.624	0.00	0.645	0.06
FUCBD	-0.638	0.01	-1.073	0.02
ASHAVBDTN	0.779	0.00	0.071	0.84
ASHAMBDTN	0.595	0.00	-0.576	0.12
ASHASBDTN	0.704	0.00	-0.089	0.82
VHND	-0.088	0.58	-0.204	0.56
VHSCBD	0.135	0.40	-0.228	0.54
DPHC	-0.202	0.00	0.276	0.05
n	1584			

(μ_i): Level of Significance

ADJUSTED PROBABILITIES OF WOMEN'S SEEKING ANTENATAL CARE (ANC) FROM PUBLIC AND PRIVATE HEALTH FACILITIES

Adjusted probabilities of seeking treatment either from public or private health facilities have been elicited using multinomial logit regression coefficients and averages of the predictor variables and are presented in Table 6.2. The adjusted probability reflects the effect of specific predictor variable, while accounting for other predictor variables in the model. Thus keeping the predictor variables at their averages, around 92 percent of pregnant women have utilized any ANC, from public or private health care facilities. Further out 92 percent pregnant women who sought any ANC majority of these pregnant women i.e. 87 percent, sought any ANC from public health care facilities, and only 5 percent of the pregnant women sought any ANC from the private health care facilities in the rural districts. Still around 8 percent of pregnant women haven't sought any ANC from either public or private health facilities in the rural areas in the districts under study.

Educated women depict higher tendency of seeking ANC compared to less educated women both from public as well as private sector health facilities. Interestingly women from higher standards of living households characterized by higher per earner income, having separate kitchen, using cleaner fuels for cooking, etc. also depict higher propensity to seek ANC from public healthcare facilities.

ASHA's role turns out to be extremely important in terms of motivating pregnant women for utilization of the ANC care from public sector health facilities. Pregnant women in villages where ASHA makes weekly home visits and carries and distributes free medicines clearly depict higher propensity to seek ANC from public sector health care facilities. However tendency to utilize private health care institutions for ANC also declines in rural areas where ASHAs are functioning responsibly in terms of visits, carrying medicines and providing counselling to pregnant women.

Proximity to first referral unit (DH/CHC) depicts negative impact on utilization of public health care facilities for ANC by the rural pregnant women. Probability of no-use increases alongwith higher distance from the public health facility and interestingly probability of utilization of private health care facility improves alongwith increasing distance from the public health care facility.

Table 6.2: MCA Table of adjusted values of probabilities (pj) from the model for Antenatal Care (ANC) Utilization from Public and Private Health Institutions and No-use

Predictor Variable	No-Use (p ₀)	Utilization Public Sector (p ₁)	Utilization Private Sector (p ₂)
Women's Education			
1	0.09	0.86	0.04
3	0.07	0.88	0.05
4	0.06	0.88	0.06
5	0.06	0.88	0.06
Household's per earner income			
1	0.11	0.83	0.06
3	0.08	0.87	0.05
5	0.06	0.91	0.04
Household With Separate Kitchen			

Predictor Variable	No-Use (p_0)	Utilization Public Sector (p_1)	Utilization Private Sector (p_2)
No	0.10	0.86	0.04
Yes	0.05	0.88	0.07
ASHA's Weekly Visit			
No	0.12	0.82	0.07
Yes	0.06	0.91	0.04
ASHA's Medicine Distribution			
No	0.12	0.77	0.11
Yes	0.07	0.89	0.04
ASHA's Counseling			
No	0.13	0.80	0.08
Yes	0.07	0.89	0.04
Distance from PHC			
1	0.05	0.93	0.01
3	0.07	0.89	0.04
5	0.10	0.81	0.09
Averages of All	0.08	0.87	0.05

Delivery Care (DC) Utilization Behaviour

Parametric estimates of the two sets of multinomial regression coefficients (β_k 's) and their levels of significance (μ_i) of selected background factors on the logs of odd ratios ($\text{Log}P_i/P_0$) pertaining to utilization of delivery care (DC) from public medical sector vis-à-vis no use, and utilization of private medical sector vis-à-vis no treatment from 4729 women having youngest child born during last five years are presented in Table 6.3. Further, adjusted probabilities of no-use of delivery care (P_0), using public sector health facilities (P_1) and using private sector medical sector (P_2) by women with different background characteristics, while accounting for other predictor variables under purview, are elicited by using the parametric estimates of the regression coefficients and averages of other predictor variables are presented in Table-4.

MULTINOMIAL LOGIT REGRESSION RESULTS FOR DELIVERY CARE UTILIZATION BEHAVIOUR

Factors influencing utilization of delivery care from public and private health sector facilities are highlighted through the Multinomial Logit Regression analysis. For the purpose the categorization of the response variable for the model based on responses from 4725 women having children less than 5 years of age are classified in three mutually exclusive categories with criterion of no-use, using public sector health facilities and using private sector health facilities for delivery care for the youngest child born during last five years. The Parametric estimates of the multinomial logit regression coefficients and levels of significance of underlying models for utilization of delivery care are provided in Table 6.3.

Perusal of Table 6.3 reveals that the demographic variable i.e. women's age; depicts a non-linear relationship with the utilization of delivery care by women. Alternatively, the demand for utilization of delivery care tends to decrease to some threshold level of the age and thereby levels off or even increases. Alternatively, the utilization of delivery care amongst younger women seems to be higher compared with women in higher age groups.

Women’s education has a significant and positive impact on the utilization of delivery care from public as well as private health facilities. Interestingly, the multiplicative effect on log of odds ratios is higher on utilization of private health care facilities ($\beta=0.375$) compared with the effect on utilization of public health care facilities ($\beta=0.183$). In other words the probability of use of private health care facilities for delivery care increases faster than the use of public health care facilities alongwith improvement in women’s education. Possibly perception about the quality of services in the private sector seems to be better compared with public health care facilities and thus more educated women go for health care in private compared with public health facilities (Gulati, 2004).

Better economic conditions, characterised by ownership of house (TOHBD) depicts significant and positive impact on the utilization of delivery care, both from public as well as private health care facilities. Further, women from households with separate toilet (STF) and potable drinking water facility (P DWF) within house, characterising better sanitation conditions, also depict significantly higher utilization of public health care facilities for the delivery care.

ASHA’s visit to households depicts significant and positive impact on utilization of public as well as private health care facilities for the delivery care. Further, the positive impact of ASHA’s visit turns out to be higher for utilization of public health care facilities compared with the private health care facilities. Impact of other program factor like observance of village health and nutrition day (VHNDBD) also depicts significant and positive impact on utilization of public health facilities for the delivery care.

Distance from the first referral unit (DFRU) depicts significant and negative impact on the delivery care utilization of public sector health facilities. In other words proximity from the health care facility becomes important in motivating women towards utilization of public health facilities for the delivery care. It would interesting to note that though the coefficient pertaining to utilization of private health care also turns out to significant and negative but probabilities of utilization with increasing distance of first referral unit results into higher utilization of even private sector health facilities for the delivery care. Possibly, increasing distance from the public health facility compels women to make higher usage of private health care facilities for the delivery care.

Table 6.3: Multinomial Logit Regression Coefficients of Delivery Care Utilization (DC), with Home delivery as Reference Category

Predictor Variables	DC Govt. Log(P ₁ /P ₀)		DC Pvt. Log(P ₂ /P ₀)	
	Coeff. (β_i)	(μ_i)	Coeff. (β_i)	(μ_i)
intercept	4.111	0.00	2.088	0.25
WAGE	-0.232	0.00	-0.203	0.10
WAGESQ	0.003	0.01	0.003	0.24
WEDN	0.183	0.00	0.375	0.00
PEI	0.012	0.71	-0.155	0.08
TOHBD	0.181	0.03	0.710	0.00
SKF	-0.028	0.73	0.045	0.78
STF	0.205	0.01	-0.121	0.47
PWDF	0.177	0.02	-0.667	0.00
FUCBD	0.162	0.14	-0.649	0.00

Predictor Variables	DC Govt. Log(P ₁ /P ₀)		DC Pvt. Log(P ₂ /P ₀)	
	Coeff. (β _i)	(μ _i)	Coeff. (β _i)	(μ _i)
ASHAVBDTN	0.800	0.00	0.551	0.00
ASHAMBDTN	0.181	0.07	-0.072	0.71
ASHASBDTN	0.010	0.91	0.045	0.81
VHNDBD	-0.315	0.00	0.094	0.53
VHSCBD	-0.057	0.45	-0.459	0.00
DFRU	-0.177	0.00	-0.118	0.03
n	4729			

(μ_i): Level of Significance

ADJUSTED PROBABILITIES OF WOMEN'S SEEKING DELIVERY CARE (DC) FROM PUBLIC AND PRIVATE HEALTH FACILITIES

Adjusted probabilities of seeking treatment either from public or private health facilities have been elicited using multinomial logit regression coefficients and averages of the predictor variables and are presented in Table 6.4. The adjusted probability reflects the effect of specific predictor variable, while accounting for other predictor variables in the model. Thus keeping the predictor variables at their averages, around 69 percent of pregnant women have utilized delivery care, from public or private health care facilities. Further, out 69 percent women who sought the delivery care, majority of these women i.e. 64 percent, sought the DC from public health care facilities, and only 5 percent of the women sought from the private health care facilities in the rural districts. Still around 32 percent of women haven't sought the DC for the last child born in last five years from either public or private health facilities in the rural areas in the districts under study.

Younger aged women depict significantly higher likelihood of usage of institutional delivery care facilities compared with the women in higher age groups. Likelihood of using the delivery care facility amongst women aged 20 is almost 75% compared with women aged 35 with the likelihood of 51% only.

Women's education plays an important role towards utilization of the delivery care from both private as well as public sector health care facilities. Further, increase in probability for utilization of private health care facilities for delivery is higher compared with the increase in probability of utilization of public sector health facilities. In other words, while controlling for other predictor variables in the model more educated women prefer to seek delivery care from private compared with the public health care facilities. Still, probability of usage of public health care facilities for the delivery care increases from around 60% for illiterate women to almost 70% for higher educated women.

Women from economically better households depict a tendency to use more of private health facilities for the delivery care compared to public health facilities. Overall probability of no-use of delivery care gets reduced from 0.35 to 0.30 for women from households owning the house compared to households not-owning the house. Nevertheless, the probability of usage of public sector facilities for the delivery care also goes up from 0.62 to 0.64 whereas probability of use for the private sector facilities improve only from 0.03 to 0.05 with the ownership of the house.

Coming to program factors ASHA's regular visits to households, while accounting for other predictor variables, improves the probability of utilization of public health facilities from 0.54 to 0.71. Interestingly, ASHA's visit to household becomes responsible for a significant shift from no-use to use of public health facilities and depicts marginal impact on change in probability of use of private health facilities for the delivery care. So ASHA's role in motivating women for public sector institutional deliveries turns out to extremely important. Similar role of holding village health and nutrition days in villages gets depicted by significant increase in probability of use of public sector health facilities.

Proximity to the first referral unit (DH/CHC) helps in improving the utilization of public sector health facilities for the delivery care in the rural areas. Further, no-use probability for delivery care in rural areas increases with increase in distance from the FRUs. Interestingly, the proximity depicts no impact on the use-probability of private health sector facilities for the delivery care but definitely influences the use-probability of public health sector facilities. Possibly, poorer women get affected by proximity of the public health care facilities and get compelled for no-use for the delivery care. Thus, women who has preference for private sector facilities for the obstetric care don't get affected by the program factors like ASHA's visit, holding of village health and nutrition day or not, proximity to the public health sector facilities, etc, for the delivery care in rural areas. The analysis clearly suggest that women from poor background categories benefit more for utilization of public health sector facilities for the delivery care compared to richer and educated women.

Table 6.4: MCA Table of adjusted values of probabilities (pj) for Delivery Care (DC) Utilization from Public and Private Health Institutions and No-use

Predictor Variable	No-Use (p ₀)	Utilization Public Sector (p ₁)	Utilization Private Sector (p ₂)
Women's Age			
20	0.20	0.75	0.05
25	0.30	0.65	0.05
30	0.39	0.57	0.04
35	0.45	0.51	0.04
Women's Education			
1	0.37	0.60	0.03
3	0.28	0.66	0.06
4	0.25	0.68	0.07
5	0.21	0.70	0.09
Ownership of House			
No	0.35	0.62	0.03
Yes	0.30	0.64	0.05
Source of Drinking Water			
No	0.33	0.60	0.07
Yes	0.31	0.66	0.03
ASHA's Visit			
No	0.42	0.54	0.04
Yes	0.25	0.71	0.05
Village Health and Nutrition Days			
No	0.29	0.67	0.04
Yes	0.35	0.60	0.05

Predictor Variable	No-Use (p ₀)	Utilization Public Sector (p ₁)	Utilization Private Sector (p ₂)
Distance from FRU (DH/CHC)			
1	0.23	0.73	0.04
3	0.29	0.66	0.05
5	0.37	0.58	0.05
Averages of All Predictor Variables	0.32	0.64	0.05

Postnatal Care (PNC) Utilization Behaviour

Parametric estimates of the two sets of multinomial regression coefficients (β_i 's) and their levels of significance (μ_i) of selected background factors on the logs of odd ratios ($\text{Log}P_i/P_0$) pertaining to utilization of postnatal care (PNC) from public health facilities vis-à-vis no use, and utilization of private health facilities vis-à-vis no use from 4725 women having youngest child born during last five years are presented in Table-5. Further, adjusted probabilities of no-use of delivery care (P_0), using public health facilities (P_1) and using private health facilities (P_2) by women with different background characteristics, while accounting for other predictor variables under purview, are elicited by using the parametric estimates of the regression coefficients and averages of other predictor variables are presented in Table6.5.

MULTINOMIAL LOGIT REGRESSION RESULTS FOR POSTNATAL CARE UTILIZATION BEHAVIOUR

Factors influencing utilization of postnatal care from public and private health facilities are highlighted through the Multinomial Logit Regression analysis. For the purpose the categorization of the response variable for the model is based on responses from 4725 women being classified into three mutually exclusive categories with criterion of no-use, using public sector health facilities and using private sector health facilities for postnatal care for the youngest child born during last five years. The Parametric estimates of the multinomial logit regression coefficients and levels of significance of underlying models for utilization of the postnatal care are provided in Table 6.5.

Perusal of Table 6.5 reveals that on average around 63 percent women use health facilities for the post natal care comprising of 61 percent from public and only 2 percent from private health facilities. Further, women's education depicts significant and positive impact on utilization of the postnatal care from private as well as public sector health care facilities. However, the likelihood of utilization of public health improves from just 56 amongst illiterate women to almost 71 percent amongst educated women, with educational level of matriculation and above. Thus, women's education plays an important role towards higher utilization of health care facilities for the postnatal care. It may be noted that utilization of healthcare facilities for delivery was found to be higher compared with the postnatal care amongst women in rural areas.

Complications in the delivery also depict significant and positive impact on the utilization of postnatal care after birth of the child from public as well as private health care facilities. Further, women having experienced complications during the delivery depict higher tendency for utilization of the private health facilities ($\beta=1.487$) compared with the utilization of the public health facilities ($\beta=0.622$) for the Postnatal care.

Household's per earner income also depicts significant and promotive impact on the utilization of PNC from public health facilities. Further, women from household's having

separate toilet facility within house premises also depict significant impact on the utilization of PNC from public health institutions. Thus, better economic and sanitation conditions in the household also depicts significant and positive impact on the utilization of PNC by women.

ASHA's role in motivating mothers to utilize public health facilities for postnatal care turns out to be significant and positive. Home visits as well as carrying and distribution of medicines by ASHAs depict significant impact in motivating mothers to use postnatal care both from public as well as private health facilities. Again the impact of ASHA's home visits, carrying and distribution of free medicines, and sensitization among rural women depicts relatively much higher impact on utilization of public compared to private health facilities for PNC.

Distance from the public health facilities also depicts significant and negative impact on utilization of public health facilities and possibly compel women to utilize private health facilities for PNC. In other words distance from the public health facility comes out to be a significant deterrent to its utilization for antenatal, delivery as well as postnatal care and possibly compels women to depend more on private health facilities for the obstetric care. Alternatively, if outreach obstetric care can be extended either through home visits for antenatal and postnatal care, and provision of emergency transport for carrying mothers for delivery care to FRUs viz. CHC/DH; can definitely work for increased use of public health facilities for the MCH care in the rural areas.

Table 6.5: Multinomial Logit Regression Coefficients of Postnatal Care Utilization (PNC), with No-Use as Reference Category

Predictor Variables	PNC Govt. Log(P ₁ /P ₀)		PNC Pvt. Log(P ₂ /P ₀)	
	Coeff. (β _i)	(μ _i)	Coeff. (β _i)	(μ _i)
intercept	-0.413	0.05	-3.557	0.00
WED	0.183	0.00	0.309	0.00
LDC	0.622	0.00	1.487	0.00
PEI	0.103	0.08	-0.008	0.92
TOHBD	0.077	0.32	0.387	0.10
SKF	-0.241	0.00	-0.079	0.73
STF	0.215	0.01	-0.435	0.06
PDWF	-0.158	0.03	-0.322	0.13
FUCBD	0.041	0.69	-0.945	0.00
ASHAVBDTN	0.491	0.00	0.585	0.00
ASHAMBDTN	0.354	0.00	0.123	0.64
ASHASBDTN	0.017	0.85	-0.235	0.34
VHNDBD	-0.020	0.78	0.121	0.56
VHSCBD	0.265	0.00	-0.653	0.01
DPHCU	-0.145	0.00	0.198	0.01
n	4725			

(μ_i): Level of Significance

ADJUSTED PROBABILITIES OF WOMEN'S SEEKING POSTNATAL CARE (PNC) FROM PUBLIC AND PRIVATE HEALTH FACILITIES

Adjusted probabilities of seeking postnatal care either from public or private health facilities have been elicited using multinomial logit regression coefficients and averages of the predictor variables and are presented in Table 6.6. The adjusted probability reflects the effect of specific predictor variable, while accounting for other predictor variables in the model. Thus keeping the predictor variables at their averages, around 63 percent of mothers of youngest child born in last five years have utilized the care, from public or private health facilities. Further, out 63 percent women who sought the postnatal care, majority of these women i.e. 61 percent, sought the care from public health facilities, and only 2 percent from the private health facilities in the rural areas. Still around 37 percent of such women haven't sought the postnatal care for the youngest child born in last five years from either public or private health facilities in the rural areas in the districts under study.

Complications in the last delivery also compel women to make increased usage of public as well as private health facilities for the PNC during birth of the last child. Surprisingly, no-use probability of postnatal care amongst women experiencing complications in the delivery drops down from almost 38 percent to 24 percent. Further, increase in likelihood of utilization of public health facilities amongst such women, who experienced complications in the last delivery, jumps to 72 percent from 61 percent amongst women not experiencing any delivery complications.

Coming to program factors ASHA's visit to households, while accounting for other predictor variables, improves the probability of utilization of public health facilities for PNC from 0.55 to 0.66. Interestingly, ASHA's visit to household becomes responsible for a significant shift from no-use to use of public health facilities for the PNC. Nevertheless, ASHA's visits also depict impact on likelihood of utilization of even private health facilities for the postnatal care. So ASHA's role in motivating women for utilization of obstetric care of public health facilities turns out to be extremely important. Similar role of holding village health and nutrition days in villages gets depicted by significant increase in the usage- probability of public health facilities for the postnatal care.

Table 6.6: MCA Table of adjusted values of probabilities (p_j) from the model for Postnatal Care Utilization (PNC) from Public and Private Health Institutions and No-use

Predictor Variable	No-Use (p_0)	Utilization Public Sector (p_1)	Utilization Private Sector (p_2)
Women's Education			
1	0.42	0.56	0.01
3	0.34	0.64	0.02
4	0.30	0.68	0.02
5	0.26	0.71	0.03
Delivery Complicated			
No	0.38	0.61	0.01
Yes	0.24	0.72	0.04
ASHA's Visit			
No	0.44	0.55	0.01
Yes	0.32	0.66	0.02

Predictor Variable	No-Use (p ₀)	Utilization Public Sector (p ₁)	Utilization Private Sector (p ₂)
ASHA's Medicines			
No	0.44	0.54	0.02
Yes	0.36	0.63	0.02
Village Health and Nutrition Days			
No	0.39	0.58	0.02
Yes	0.34	0.65	0.01
Distance from PHC			
1	0.29	0.70	0.01
3	0.35	0.64	0.01
5	0.41	0.56	0.02
Averages of All Predictor Variables	0.37	0.61	0.02

Childrens' Immunization Services Utilization Behaviour

The Binary logit regression analysis has been utilized for highlighting factor influencing the utilization behaviour of children's immunization services for youngest children amongst 1-5 years old children in the households. Complete immunization viz. BCG, measles, and three doses each of DPT and polio; was administered to only 2635 youngest children out of 4498 children aged 1-5 years. Thus, only 59 percent of the youngest children aged 1-5 years in 7400 households covered under study were fully immunized. It has often been viewed that fuller immunization against vaccine preventable diseases can prevent major component of child mortality (Gulati, 2008; Jones, Schultink, Babilie, 2006). However, most of the immunizations of children were administered in public health institutions viz. SC, PHC, CHC or DH. Further, vaccinations of children had primarily been administered in the public health institutions, whereas only 0.3 percent of the immunizations of any kind of the children had been done through private health professionals/institutions in the rural areas and majority of the vaccinations were administered at SCs (68%) or PHCs (9%). Thus, binary logit regression estimates provide parametric estimates for complete immunization against partial immunizations amongst youngest of the children aged 1-5 years.

BINARY LOGIT REGRESSION RESULTS FOR THE CHILDREN'S COMPLETE IMMUNIZATION

The Parametric estimates of the binary logit regression coefficients and levels of significance of underlying models for the complete immunization compared with no/any immunization as reference category has been provided in Table 6.7.

Perusal of Table 6.7 reveals that women's education depicts significant and positive impact on utilization of the complete immunization services from the public health facilities. Further, women from higher income households also depict significantly higher utilization of the immunization facilities for their children. Also women who had gone for institutional deliveries also depict significantly higher utilization of complete immunization for their children. Extent of institutional deliveries also depicts significant and positive impact on the complete immunization of the children. The likelihood of complete immunization for children improves from 61% to 72% if the delivery happens to be institutional. Possibly, improved institutional deliveries are also reinforcing complete immunization for children under the NRHM programme.

ASHA's role in motivating mothers to utilize public health facilities for children's complete immunizations also turns out to be significant and positive. Holding of village health and nutrition days, in which ASHA performs a major role in mobilising pregnant women and children to attend VHNDs in villages, also depict significant and positive impact on complete immunization of children. Further, distance from the public health facilities depicts significant and negative impact on utilization of public health facilities for children's complete immunization. Thus, program factors, especially role of ASHA and ANM and holding of VHNDs and better spread of public health institutions seem to depict significant impact on utilization of public health facilities for children's complete immunization in the rural areas.

Table 6.7: Binary Logit Regression Coefficients of the Model with Children Complete Immunization (CIM), with No/Any Vaccination as Reference Category

Predictor Variables	CIM		
	Coeff. (β_i)	(μ_i)	Exp(β_i)
Constant	0.994	0.00	2.702
WEDU	0.148	0.00	1.159
PEI	0.106	0.02	1.115
TOHBD	-0.016	0.82	0.984
ASHAVBDTN	0.345	0.00	0.708
ASHASBDTN	0.234	0.00	1.264
VHSCBD	-0.244	0.00	0.784
VHNDBD	0.181	0.01	1.204
DCTDN	0.469	0.00	1.605
DPHC	-0.198	0.00	0.821
n	4498		

ADJUSTED PROBABILITIES OF WOMEN'S SEEKING CHILDREN'S IMMUNIZATION SERVICES FROM PUBLIC HEALTH FACILITIES

Adjusted probabilities of children's complete immunization from public health facilities have been elicited using binary logit regression coefficients and averages of the predictor variables and are presented in Table 6.8. The adjusted probability reflects the effect of specific predictor variable, while accounting for other predictor variables in the model. Thus keeping the predictor variables at their averages, around 68 percent of children aged 1-5 years seem to have been fully immunized from the public health facilities. Thus, still 32 percent of the eligible children have either been not or partially immunized.

Women's increasing education levels from illiterate to middle level schooling depicts increase in likelihood of children's full immunization from 65 percent to 72 percent. Similarly women from higher income households also depict higher probability of completely getting their children immunized and the likelihood improve from 66 percent to 71 percent. Thus, women with higher educational levels and higher standards of living depict get their children completely immunized compared with illiterate and poorer women.

Coming to the program factors ASHA's home visits and counselling with women improved the likelihood of utilization of public health facilities for children's immunization. Further, even holding village health and a nutrition day in rural areas also significantly improves likelihood of using public health facilities for children's immunizations. Improvement in institutional deliveries also seems to improve the likelihood of children's complete immunization.

Table 6.8: MCA Table of adjusted values of probabilities (p_j) from the Binary Logit Model for Children's Complete Immunization (CIM) to No/Any Immunization for Children 1-5 Years

Predictor Variable	Complete Immunization (p _j)
Women's Education	
1	0.65
2	0.69
3	0.72
PEI	
1	0.66
2	0.69
3	0.71
Place of Delivery	
Home	0.61
Institutions	0.72
ASHA's Visit	
No	0.64
Yes	0.71
ASHA's Counseling	
No	0.64
Yes	0.69
Village Health and Nutrition Day	
No	0.66
Yes	0.70
Village Health & Sanitation Committee's Meeting	
No	0.70
Yes	0.65
Distance from PHC	
1	0.73
3	0.68
5	0.64
Averages of All Predictor Variables	0.68

Family Planning Services Utilization Behaviour

The role of contraception in fertility regulation has always been crucial to success in historical as well as a contemporary fertility regulation. Realizing the potential dangers of a burgeoning population, in 1952 India became the first country to launch an official national planning program, promoting contraception and responsible parenthood to control fertility and hasten the process of demographic transition in India (NPP 2000). Several empirical studies have highlighted the influence of several socioeconomic, demographic and program factors like age, education, sex composition of surviving children, awareness and type of methods used, etc., on contraception usage (Bongaarts, 1995; Casterline, 2000; Gulati, 2007, 2009). Contraception usage has always been viewed to be most significant catalytic factor and cost effective strategy for fertility control in almost all the circumstances, especially to facilitate accelerated population stabilization in the developing countries (Robey, 1996; Westoff, 2000). The analysis highlights factors influencing demand for contraception for spacing as well as limiting births in rural India.

MULTINOMIAL LOGIT REGRESSION RESULTS FOR FAMILY PLANNING SERVICES UTILIZATION BEHAVIOUR

Factors influencing likelihood of usage of contraception for spacing as well as limiting births are highlighted through the Multinomial Logit Regression analysis. For the purpose the categorization of the response variable for underlying Multinomial Logit Model the response from 7042 currently married women aged 15-49 years and staying with husbands, covered under the study, got classified in three mutually exclusive categories comprising no-use, usage of temporary and usage of permanent methods of contraception.

The selected predictor variables are both quantitative as well as categorical. The quantitative predictor variables are per earner income of the household and number of living sons (NLS) and its squared term (NLSSQ), and distance from the primary health center, from where most of the respondents avail contraception facilities. The categorical predictor variables comprise ownership of the house, facility of potable water, and separate kitchen. Program factors like ASHA's regular visit to household, carrying of kit and medicines, sensitization on sanitation and nutrition and counselling to women. Further, village health and nutrition day and health and sanitation committee meetings are held or not.

The parametric estimates of the Multinomial Logit Regression coefficients by the Maximum Likelihood procedure of all the predictor variables, quantitative as well as categorical, are presented in Table 6.9. The estimated coefficient (β_i 's) depicts the additive effect of one-unit change in the predictor variable (X_i) on the log of odds ($\log \Omega$) of the response variables, which are categorized as women using temporary methods or permanent methods with no-use as reference category. Equivalently, the term (e^{β_i}) depicts the multiplicative effect on the odds-ratio or the ratio at which the odds of the response variable would increase or decrease depending upon the positive or negative sign of the coefficient, respectively.

Perusal of Table 6.9 reveals that Numbers of living sons (NLS) depict significant and positive impact on usage of temporary as well permanent methods of contraception. Interestingly, coefficients pertaining to non-linear terms i.e. squared of NLS also turn out to be significant but negative for usage of temporary as well as permanent methods of contraception. Thus, significant but positive coefficient pertaining to linear term and significant but negative coefficient pertaining to squared term depicts that both the components of demand for contraception increase with number of living sons upto some threshold levels of number of living sons, beyond which it tends to level off or even decline. It may be of interest to mention that number of sons depict much stronger impact on usage of contraception for limiting births ($\beta=2.933$) compared to effect on usage of spacing methods ($\beta=2.460$).

Standard of living characterized by per earner income as well as separate kitchen in the house depict significant and positive impact on usage of temporary methods of contraception. Thus usage of contraception improves consistently alongwith increase in the standard of living of the households.

Role of ASHA's home visits as well as counselling with women depicts significant and positive impact on the usage of spacing as well as permanent methods of contraception. Further, even holding of village health and nutrition days also depict significant and positive impact on the usage of contraception for spacing births. Thus, role of ASHA as well as holding of health and nutrition days in the villages turns out to be significant and positive towards promotion of family planning program in rural India. Distance from the public health facilities also depicts

significant and negative impact of usage of temporary as well as permanent methods of contraception.

Table 6.9: Multinomial Logit Regression Coefficients of the Model with Family Planning Methods Utilization (FPMU)), with No-Use as Reference Category in the Response Variables

Predictor Variables	FPMU Temporary Log(P ₁ /P ₀)		FPMU Permanent Log(P ₂ /P ₀)	
	Coeff. (β _i)	(μ _i)	Coeff. (β _i)	(μ _i)
intercept	-2.507	0.00	-2.973	0.00
NLS	2.460	0.00	2.933	0.00
NLSSQ	-0.455	0.00	-0.489	0.00
PCIRANG	0.126	0.00	-0.032	0.40
TOHBD	-0.077	0.36	-0.093	0.37
SKF	0.317	0.00	0.004	0.97
STF	-0.131	0.11	0.098	0.35
PDWF	0.077	0.32	0.039	0.69
FUCBD	-0.021	0.85	-0.418	0.00
ASHAVBDTN	0.424	0.00	0.497	0.00
ASHAMBDTN	0.465	0.00	0.269	0.04
ASHASBDTN	0.056	0.55	0.219	0.07
VHSCBD	0.151	0.05	-0.045	0.64
VHNDBD	0.147	0.06	-0.154	0.12
DPHC	-0.081	0.00	-0.111	0.00
n	7042			

(μ_i): Level of Significance

ADJUSTED PROBABILITIES OF USAGE OF CONTRACEPTION BY BACKGROUND CHARACTERISTICS

Perusal of Table 6.10 reveals that likelihood of no-use of contraception methods reduces substantially after having one son such as it reduces from almost 81% to 34% after having one son and further reduces to just 14% amongst couples after having two sons. Further, usage of permanent methods of contraception improves substantially after having two sons i.e. from almost 3% to 27%. Thus, the positive effect of number of living sons on the usage of contraception for limiting births is substantially higher than on usage of contraception for spacing births. However, the phenomenon of deep rooted son preference in the Indian society clearly gets reflected by the analysis (Gulati, 2007, p.52).

Women from better economic standards households characterized by higher per earner income as well separate kitchen facility in the house, depicts higher likelihood of using temporary methods of contraception. Likelihood of no-use of contraception declines among 36% in amongst women from low income households to around 28% amongst women from higher income households.

ASHA's home visits and distribution of free medicines and counselling with women also improves likelihood of usage of temporary as well as permanent methods of contraception. Similarly, holding of health and nutrition days in the villages motivates women to use both temporary as well as permanent methods of contraception. Thus, program factors seem to contribute substantial improvement in higher and higher utilization of family planning methods

also. Also, proximity to public health facility like SC and PHC also depicts significant improvement in the likelihood of usage of contraception methods.

Table 6.10: MCA Table of adjusted values of probabilities (p_j) from the model for Family Planning Services Utilization from Public or Private Health Facilities or No-use

Predictor Variable	No-Use (p_0)	Utilization Public Sector (p_1)	Utilization Private Sector (p_2)
Per Earner Income (PEI)			
1	0.36	0.44	0.20
3	0.32	0.51	0.17
5	0.28	0.58	0.14
Number of Living Sons (NLS)			
0	0.81	0.16	0.03
1	0.34	0.50	0.16
2	0.14	0.60	0.27
Separate Kitchen (SKF)			
No	0.34	0.47	0.18
Yes	0.29	0.55	0.15
ASHA's Visit			
No	0.38	0.47	0.15
Yes	0.28	0.53	0.19
ASHA's Medicines			
No	0.40	0.43	0.17
Yes	0.31	0.52	0.17
VHND			
No	0.33	0.48	0.19
Yes	0.31	0.53	0.15
VHSC			
No	0.33	0.49	0.18
Yes	0.31	0.53	0.16
Distance from PHC			
1	0.27	0.53	0.19
3	0.31	0.51	0.18
5	0.35	0.49	0.16
Averages of All Predictor Variables	0.32	0.51	0.17

Chronic Disease Treatment (CDT) Seeking Behaviour

Parametric estimates of the binary regression coefficients (β_k 's) and their levels of significance (μ_i) for Chronic Disease Treatment from public vs. private health facilities with use of private health facilities as the reference category. The analysis is based on respondents numbering 1534 who had been suffering from chronic diseases and had sought treatment during three months prior to the survey, and are presented in Table 6.11. Further, adjusted probabilities of use of private health facilities (P_0), and using public health facilities (P_1) for treatment by the suffering respondents with different background characteristics, while accounting for other predictor variables under purview, by using the parametric estimates and averages of the predictor variables, are presented in Table 6.11.

BINARY LOGIT REGRESSION RESULTS FOR CHRONIC DISEASE CARE UTILIZATION BEHAVIOUR

Factors influencing utilization of medicare from public vs. private health facilities are highlighted through the Binary Logit Regression analysis. For the purpose the categorization of the response from 1534 suffering respondents for seeking treatment has been classified into two mutually exclusive categories such as treatment from public and private health facilities during three months prior to the survey. The Parametric estimates of the binary logit regression coefficients and levels of significance of underlying models for utilization of the medicare are provided in Table 6.11.

Perusal of Table 6.11 reveals that utilization of public health facilities compared with private health facilities declines significantly with age. Further respondents' education depicts significant and positive impact on utilization of public health facilities for treatment sought for chronic diseases. Alternatively, higher educated patients are utilizing more of public health facilities compared with private health facilities for the purpose. Further, patients from higher income families depict higher likelihood of using public sector facilities for chronic disease treatment.

Coming to program factors ASHA's frequent visits, distribution of medicines and counselling depict significant and positive impacts on utilization of public health facilities for seeking treatment from public health facilities for chronic diseases.

Distance from the first referral units (FRUs) i.e. CHC/DH, also depicts negative impact on the utilization of public health facilities for the chronic disease treatment. Possibly distance from the public health facilities in turn motivates respondents suffering from chronic diseases to avail private health facilities for the purpose. In other words proximity of public health institutions, especially FRUs like CHC/DH; depicts significant impact on the utilization for the public health facilities for the treatment of chronic diseases.

Table 6.11: Binary Logit Regression Coefficients of the Model with Chronic Disease Treatment (CDT) from Public vs. Private Health Facility, with Private as Reference Category

Predictor Variable	Coefficient	Significance	Exp(B)
Constant	1.291	0.01	3.637
H.9D1age	-0.015	0.00	0.985
H9.D1ed	0.144	0.02	1.155
PCIRANG	0.138	0.02	1.147
TOHBD	-0.100	0.52	0.904
SKBD	-0.304	0.09	0.738
STF	-0.080	0.61	0.923
SODWBD	0.273	0.07	1.314
FUCBD	-0.210	0.45	0.811
ASHAVBDTN	0.078	0.59	1.081
ASHAMBDTN	0.482	0.01	1.619
ASHASBDTN	0.378	0.02	1.460
VHNDBD	-0.638	0.00	0.528
VHSCBD	0.541	0.00	1.717
DHdis	-0.133	0.01	0.876
N	1534		

(μ_i): Level of Significance

ADJUSTED PROBABILITIES OF TREATMENT SEEKING BEHAVIOUR FROM PUBLIC AND PRIVATE HEALTH FACILITIES FOR CHRONIC DISEASES BY BACKGROUND CHARACTERISTICS

Adjusted probabilities of seeking treatment either from public or private medical sectors have been elicited using binary logit regression coefficients and averages of the predictor variables and are presented in Table 6.12. The adjusted probability reflects the effect of specific predictor variable, while accounting for other predictor variables in the model. Thus keeping the predictor variables at their averages, around 78 percent of respondents suffering from any chronic diseases sought treatment either from the public and only 22 percent from the private health facilities for treatment for chronic diseases. Thus, still more than three fourths of patients suffering from chronic diseases seek treatment from public health institutions

Likelihood of utilizing public health facilities is much higher amongst younger aged patients compared with elderly patients such as probability reduces from almost 85% amongst patients aged 15 yrs to almost 72% amongst elderly patients aged 65 yrs. However, likelihood of using public health facilities for treatment of chronic diseases is higher among more educated compared with less educated patients. Similarly patients from higher income families also depict higher likelihood of using public compared with private health facilities for the purpose. It seems that patients from higher income families, more educated and younger aged depict higher public health facilities compared with private health facilities for treatment of chronic diseases.

Role of ASHAs seems to be significant in motivating patients suffering from chronic diseases to make use of public health care facilities. Patients from households reporting more frequent visits of ASHAs, availability of free medicines from them and proper counselling depict higher probabilities of usage of public health care facilities compared with private health facilities for the purpose. Higher distance from the FRUs also deters patients to make use of public health facilities and possibly compels them to make use of private health facilities for seeking treatment for chronic diseases.

Table 6.12: MCA Table of adjusted values of probabilities (p_j) from the model for Chronic Disease Care (CDC) Utilization from Public vs. Private Health Institutions

Predictor Variable	Probability of Using Public health facility
CD Age	
15	0.85
25	0.82
40	0.79
65	0.72
CD Edn	
1	0.75
2	0.78
3	0.80
PEI	
1	0.73
2	0.76
3	0.78
ASHA's Carrying Medicine	
No	0.70
Yes	0.79

Predictor Variable	Probability of Using Public health facility
ASHA's Counseling	
No	0.73
Yes	0.79
Village Health & Sanitation Committee's Meeting	
No	0.74
Yes	0.83
Distance from FRUs	
1	0.83
3	0.79
5	0.75
Averages of All Predictor Variables	0.78

Concluding Remarks

Women's individual characteristics like age and education have often been observed to make a significant impact on obstetric health care seeking behaviour in rural areas, both from public as well as private health facilities. Further, women's education not only improves their likelihood of seeking obstetric care, but also facilitates utilization of public health facilities for complete immunization of children. More educated women also report higher utilization of contraceptive methods. Nevertheless, we still find son-preference is still deep rooted in rural areas as still usage of permanent methods improves much faster amongst women with at least two sons.

Households background factors like better economic and sanitation conditions in the households characterized by higher incomes, separate toilet facility within residential premises, availability of potable drinking water, etc. depict significant and positive impact in promoting utilization of health care facilities, whether private or public, amongst women during pregnancies, deliveries, and post-natal period. Such background factors also depict strong impact on seeking children's immunization services, promotion of usage of contraception services, and even treatment for chronic diseases, from public as well as private health care facilities. It may be of interest to mention that economically and socially better off chronic patients depicted higher utilization of public compared to private health facilities for the treatments.

Impact of some of the program initiatives and enhanced outreach of health services on obstetric care, child immunization, family planning, and chronic disease control have turned out to be significant even after controlling socioeconomic, demographic and cultural factors in rural India. Role of ASHA turns out to be extremely important in promoting utilization of public health care facilities for MCH care, Family Planning and treatment of Chronic Diseases. Frequent visits of such key health workers, carrying kits and distribution of common medicines and proper counselling makes significant impact in motivating pregnant women to visit nearby SCs and PHCs for the antenatal care. Further, important role of ASHAs in motivating pregnant women to make use of public health care facilities for delivery care. For delivery care primarily FRUs, implying District Hospitals and Community Health Centers, are getting utilized and seem to be responsible for improvements in institutional deliveries. As FRUs are supposed to be adequately equipped and staffed for emergency obstetric care because of having proper operation

theatres, surgeons, gynaecologists and pediatricians, accessibility to emergency transport, ready availability of blood in case of emergency operations, etc. The analysis clearly highlights that utilization of public health facilities for the delivery care is also primarily increasing because of motivational efforts and support of key health workers like ASHAs/ANMs/VHNs. Also ASHA's home visits and counselling promotes utilization of family planning services primarily from public health facilities. Further, the visits and counselling promotes utilization of chronic disease control services for which most of the patients visit District Hospitals for the treatment.

Holding of village health and nutrition days and meetings of village health and sanitation committees facilitates increased utilization of public health facilities for delivery care, postnatal care, children's immunization, family planning services, chronic disease control services, antenatal care. Similarly proximity to public health facility depicts strong impact on its utilization. Since peripheral health facilities like Sub Centers and Primary Health Centers are primarily utilized for antenatal and postnatal care, family planning services and children's immunization, thus further training and retraining of key health workers like ASHAs, ANMs and VHWs would further promote their utilization. Many a times ASHAs had expressed their desire to include vaccinating also in their training schedules and thus it would further strengthen children's immunizations and antenatal care programme. Since, utilization of FRUs, District Hospitals and Community Health Centers, is predominantly for institutional deliveries and seeking treatment of chronic ailments, thus further strengthening and consolidation of adequate facilities in such institutions and provision of referral or emergency transport in peripheral areas and centers would further promote wider utilization of public health facilities for obstetric care and further improve institutional deliveries.

Chapter 7

Summary & Conclusions

The study attempts evaluation and assessment of the availability, adequacy and utilization of health services in the rural areas, the role played by ASHAs, AYUSH in creating awareness of health, nutrition among the rural population and to identify the constraints and catalysts in the implementation of the NRHM programmes. Along with role of ASHA and mainstreaming of AYUSH the utilization aspects of health services necessitates studying other crucial factors like availability, planning and preparedness of health facilities and human resources, drugs availability, quality of MCH care and diagnostic-services, referral services, process of accreditation, effective decentralization, effective utilization of funds, etc. Simultaneous attention on programs impacting nutrition, capacity building, communitization, empowerment, etc. are equally important for effective utilization of the health services. Apart from accessibility and affordability it is also client's perception about the quality of healthcare which prompts them to utilize the healthcare facilities, whether private or public. All these interconnected aspects for promotion for utilization of healthcare system in rural areas have been brought under the purview of the present study.

Coverage and Sample Design of the Study

In-depth interviews with the Key Officials in the State Headquarters, District Headquarters, District NRHM Health Societies (DHSs), District Program management Units, Chief Medical Officer/Office (CMO), Medical Superintendent (MS) office, etc. the study team had elicited lot of information on the key-dimensions like profile of members of the DHS, demographic characteristics of the District, flow of funds, roles and responsibilities, National Disease Control Programme/other schemes under NRHM, District health Plans, etc. Additionally we gathered quantitative details on physical health infrastructure comprising of both public as well as private, Human Resources, Rogi Kalyan Samities (RKSSs), Janani Suraksha Yojana (JSY), and Financial Flow Mechanisms.

Further information on provision and utilization of health services, NRHM initiatives under Public Private Partnerships like Rogi Kalyan Samities (RKSSs) and Village Health and Sanitation Committees (VHSCs), initiatives under mainstreaming of AYUSH, recruitment and training of ASHAs, conducting Village Health and Nutrition Days (VHNDs), financial outlays and utilization of NRHM funds under RCH and NRHM additionalities, etc. got focused in the interviews with key health personnel in District Head Quarters and District Health Societies. Additionally, structured schedules were canvassed in state headquarters to elicit information about demographic profiles, health infrastructure and its utilization, some key interventions under NRHM, etc. Many a times the information was updated with the NRHM documents submitted by the state officials for the program implementation plans submitted and deliberated in the annual meetings under NRHM at the Ministry of Health and Family Welfare.

The study is primarily based on primary data collected for functioning of facilities and utilization of public or private health facilities for obstetric care, children's immunization, family planning and chronic disease services in seven states of India viz. Uttar Pradesh, Madhya Pradesh, Jharkhand, Orissa, Assam, Jammu and Kashmir and Tamil Nadu. The next level selection of 37 district stretched over the seven states comprised of 6 districts each in Uttar

Pradesh (UP) and Madhya Pradesh (MP), and 5 districts each in Jharkhand, Orissa, Assam, Jammu and Kashmir (J&K) and Tamil Nadu (TN).

The sampling design for facility survey in each district envisages selection of one District Hospital, 2CHCs, 4 PHCs with 2 each in the selected CHCs, 8 SCs with 2 each in the selected PHCs, 8 Villages with one each under selected SCs, ASHAs in the selected villages, AYUSH, Gram Panchayat, and 200 households. The facility survey in the study has covered 37 DHs, 74 CHCs, 148 PHCs, 296 SCs, and 296 villages stretched over 37 districts over 7 states of India.

The household survey has covered 7400 households from 296 villages stretched over 37 districts in the seven states under the purview of present study. In each selected village selection of 25 households was purposive as it was based on identification of five households under each of the following categories viz. households having pregnant woman, households having lactating women, households with children 1-5 years, households with at least one chronic disease patient, and households having utilized family planning services. The identification of the households with the objective criteria was accomplished with the help of ASHAs/ANMs working in the selected villages.

Information from eligible respondents utilizing different components of RCH, Family Planning, and Chronic Disease services along with some general socioeconomic and demographic background characteristics from each of the selected 7400 households was elicited through structured schedules. Further, complete household schedules were canvassed in all the selected households irrespective of the objective criterion with which these were identified and selected.

Facility Survey

Overall 37 DHs, 74 CHCs, 148 PHCs, 294 SCs, 3307 ASHAs, and 260 VHSCs have been covered in 37 districts stretched over seven states viz. Uttar Pradesh, Madhya Pradesh, Jharkhand, Orissa, Assam, J&K and Tamil Nadu. Structured Schedules were canvassed with the District Hospital's key officials as well as departments and data was collected on key dimensions like profile of members of District Health Society, demographic profile of the district, availability of public health facilities like number of CHCs, PHCs, SCs, physical health infrastructure in the district, health human resource like specialists, medical and paramedical staff, ASHAs, mobile medical units, etc. Information on institutional deliveries, JSY beneficiaries, Accreditation of health institutions under JSY, etc. Additional information on major diseases reported in the district, flow of funds, roles and responsibilities entrusted to the committees, information about National Disease Control Programme. Hard copies of the District Health Plans were verified and collected wherever they were made available.

Functioning of District Health Societies

District Health Societies (DHSs) have been functioning well in carrying on some responsibilities such as PHC's health committee reports are being discussed in 35 out of 37 District Health Societies (DHSs) excepting Barpeta in Assam and Udhampur in J&K. Vertical Integration of all the Health Societies created under different programmes in the districts into District Health Society has been reported in all the districts in UP, MP, Jharkhand and Tamil Nadu. However, Kendrapara in Orissa and Sonitpur in Assam have not reported the vertical integration. National Disease Control Program (NDCP), though still under separate disease-

specific head under NRHM budget also, seems to be working well in most of the districts. Nevertheless reporting of data on the incidence of diseases was quite scanty.

Functioning of District Hospitals

Environmental Clearance from Pollution Control Boards was not obtained in 10 out of 37 DHs visited under study. Further 10 out of the 37 DHs were not disabled friendly. Intensive Care Units (ICU) are not available in 19 out of 37 DHs covered under the study. Surprisingly, 3 out of 6 DHs in UP viz, Sultanpur, Mau and Unnao; 2 out of 6 in MP viz. Neemach and Hoshangabad; 2 out of 5 in Jharkhand viz. West Singhbhum and Chatra; 4 out of 5 in Orissa as well as J&K don't have ICUs such as only Bolangir in Orissa and Udhampur in J&K have the ICU facility; and surprisingly Tuticorn in Tamil Nadu also does not have the ICU facility. Blood Bank/ blood storage facility available in 35 out of 37 DHs, only Chatra in Jharkhand and Cachar in Assam have not reported any blood storage facility which is important for any surgical intervention and other emergency services like complicated delivery and sick child care. Proper drainage and sanitation system is functioning only in 29 out of 37 DHs. In Madhya Pradesh DHs of Neemach and Hoshangabad, Chatra of Jharkhand, 3 out of 5 DHs in Orissa viz. Bolangir, Keonjhar and Puri, Doda DH of J&K and Tuticorn of Tamil Nadu the drainage system was not functioning properly. Pharmacy is available in almost all the 37 DHs excepting Chatra in Jharkhand. Similarly Doctor's Duty Room is also available in all DHs excepting Chatra. Interestingly other infrastructural facilities like telephone, fax machines, computers are more or less available in and functioning in almost all the DHs.

Overall availability of basic infrastructural facilities like ICU, Blood Storage facility, proper sanitation conditions, doctor's duty room, Pharmacy, telephone, fax machine, etc. seems to be available in most of the DHs and some of the DHs listed above not having even ICUs need to be upgraded and possible some of the DHs like Sultanpur in UP, Neemach and Hoshangabad in MP; Chatra and West- Singhbhum in Jharkhand; Cachar in Assam, Doda in J&K and Tuticorn in Tamil Nadu; needs lot more emphasis to upgrade the health care services in District Hospitals for improving the quality health services.

Functioning of Community Health Centres

In all surveyed 74 CHCs stretched over 37 districts under the purview of the present study. It is interesting to note that almost all the CHCs in all the seven states report provisioning of 24 hours delivery services including normal and complicated deliveries. But when we come to availability of emergency obstetric care, emergency care for sick children, safe abortion services, etc. the situation is awful in most of the districts. Availability of specialists/doctors comprising of surgeons, gynaecologists, paediatricians, and even physicians seems to quite poor in most of the CHCs. Even laboratory and diagnostics facilities like X-Ray, Ultrasound, ECG machines are reported to be non-functional in most of the CHCs. However, Rogi Kalyan Samities are reported to be functioning in most of the CHCs and even AYUSH facilitators/doctors are also found to be in place in majority of the CHCs.

Availability of 24x7 delivery care for normal as well as assisted delivery is available in almost all the CHCs in all the states with minimum (6/10) in Jharkhand. However, emergency obstetric care, caesarean as well as other surgical intervention services are available in around 20% of the CHCs in most of the districts in all the states excepting 50 % CHCs in Madhya Pradesh and Tamil Nadu. Most of the CHCs don't have key specialists and doctors viz. General Surgeons, Obstetrician/Gynaecologists and Paediatricians; in position in almost all the states.

Surprisingly, most of the CHCs visited in Tamil Nadu have not reported any of these specialists in position, whereas situation seems to be little better in UP, Orissa and Assam. Even emergency services for sick children like separate paediatric beds are not available in any of the most of the CHCs, excepting in districts of Madurai and Tuticorn in Tamil Nadu. Availability of CHCs in Tamil Nadu, whereas situation seems to be better in Orissa, UP and Assam. Interestingly, functional laboratories and labor rooms are reported in most of CHCs in almost all the districts with somewhat poor availability in Assam and Jharkhand, especially in tribal areas. AYUSH doctors at CHCs are reported to be better in states of Tamil Nadu and Orissa, and none of the CHCs in Uttar Pradesh and Madhya Pradesh has any AYUSH doctor in position. Interestingly, referral transport is available in all the 10 CHCs in Tamil Nadu. Diagnostic facilities like ECG, X-Ray and Ultrasound machines are reported to be functioning in most of the CHCs in J&K and Tamil Nadu. Coming to overview of the availability of emergency health care facilities for obstetric care, surgical interventions, sick child care, 24 hours delivery services, abortion services, availability of key medical specialists/doctors, diagnostic facilities, lab technicians, referral transport services etc. seem to be good in districts where district hospitals are functioning well. At state level Saharanpur, Mathura and Unnao in UP; Hoshangabad and Neemach in Madhya Pradesh; Ranchi in Jharkhand, Puri and Kendrapara in Orissa; Dibrugarh and Darrang in Assam; Jammu, Baramulla and Udhampur in J&K and Madurai, Tuticorn and Kanchipuram in Tamil Nadu seem to be relatively doing better in terms of infrastructure and delivery of health services.

Functioning of Primary Health Centers

In order to provide optimal level of quality health care, Primary Health Centre is universally recognized the most effective intervention to achieve significant improvements in health status of population in the locality. For the purpose 148 PHCs have been surveyed in our sampled districts under the sampling criteria of 2 PHCs under each of the selected CHC in each of the 37 districts.

Interestingly, 92% of the PHCs have been reported to be functioning in own buildings with minimum (17/20) in Orissa as well as J&K. Coming to upgradation under IPHS standards almost 69% of the PHCs have been upgraded by the time of the survey with minimum (5/20) in J&K. Most of the PHCs have reported availability of potable/drinking water within PHC premises with almost all in Tami Nadu and minimum in Orissa (12/20) and Assam (13/20). Overall cleanliness and availability of toilet facility was reported in almost all the PHCs. Availability of registration counter, OPD room and Pharmacy was reported in more than 90% of PHCs in all the districts excepting availability of registration counters only (7/20) Orissa and (8/20) in J&K. Surprisingly, availability of operation theatres as well as casualty rooms seems to be poor in almost all the districts excepting in UP and MP. However, separate labor room was reported to be available in 55% of the PHCs with maximum in Tamil Nadu (20/20) followed by MP (17/24). Availability of referral transport of functioning ambulance was reported to be available in only 41% of PHCs with better availability in Orissa (20/20) and Tamil Nadu (10/20). Surprisingly, availability of Allopathic doctors/ MOs is reported in around 84% of the PHCs with a minimum in Jharkhand (14/20) and J&K (16/20). Posting of AYUSH doctors at PHCs seems to be very poor, with say no PHC with any AYUSH doctor in Jharkhand and only one PHC with the doctor in Tamil Nadu. In service delivery categories we found services under Emergency, Referral, IPD, OPD, Delivery Care, New Born Care, Children's Immunization, Family Planning and Management of RTIs/STDs; were found to be reasonable. However, under

nutrition services we found only 47% of the PHCs had reported with some activity with minimum in J&K. Nevertheless, AYUSH and rehabilitation services were found to be inadequate.

Overall availability of infrastructure, human resources, and service delivery if found to be relatively better in states of Tamil Nadu, UP and MP and poor in states of J&K and Orissa. Mainstreaming of AYUSH needs to be strengthened in almost all the states. Communication and referral transport have to be strengthened in UP, MP and Jharkhand. Recruitment and training of Female Health Workers in states of Assam and Jharkhand need to be focussed to improve outreach of health services.

Functioning of Sub Centers

In the Indian health scenario, Sub-Centre (SC) 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.

In all we were supposed to survey 296 SCs with two each under every selected PHC in all the districts. However, two SCs, with one each in Jharkhand and Orissa, could not be contacted as these were under construction and none of the relevant official was available for furnishing the information. As far as infrastructure is concerned only 47% of the SCs were functioning in owned buildings. However, even availability of drinking water (56%), separate toilet facility (52%), regular electricity (40%) and communication (37%) facility was very poor in SCs. However, these facilities were reported in almost more than 80% of SCs in Tamil Nadu and surprisingly communication facility was available in all the SCs (39/39).

Availability of ANMs was reported in 94% of the SCs with minimum in Assam (32/40). Recruitment and positioning of ASHAs seems to be reported in 77% of the SCs, excepting in Tamil Nadu where we have not yet introduced ASHAs. However, in TN we have effective functioning of village health nurse (VHN) in almost all the villages. However, availability of ASHAs was poor in SCs of Assam (32/40).

Coming to obstetric care ANC (78%), PNC (84%) and Child Care including immunization (91%) services were reported to be quite satisfactory excepting in UP. However, Family Planning services at SCs were reported to be quite good. Nevertheless, 24 hour referral services were reported to be available only in 41% of SCs with much better services in Tamil Nadu (36/40) and extremely poor in Jharkhand (10/39). SCs are supposed to be good in providing DOT services and which was found to be quite poor in UP (12/48), Jharkhand (25/39) and Orissa (24/39).

Overall functioning of SCs was discerned to be good in Tamil Nadu, J&K and MP whereas the services need to be strengthened in UP, Orissa, Jharkhand and Assam.

Functioning of Village Health & Sanitation Committee

The NRHM visualize the provision of decentralized health care at grass root level and for this involvement of Panchayati Raj Institutions was considered to be important. An institutional arrangement of constituting Village Health and Sanitation Committees (VHSCs) under the headship of Gram Panchayat (GP) was considered important by involving elected GP members in VHSCs for monitoring and implementation of health services at the village level and try to improve the health facility with the slogan “people health in their hands”. For see the progress at

community level and their perception about the same, we had interacted with 260 VHSC members over 296 villages in 37 districts.

Most of the VHSC members reported that their village had the Sub-centre facility (253/260). Most of the contacted VHSC members reported satisfaction about the health services provided by the SCs. However, stay facility for inpatients at SCs we reported to be very poor as only 32% of the SCs had such provisions. However, only 57% of the VHSC members reported their participation in making Village Health Plans, with minimum participation in Jharkhand (8/26). Similarly keep up of the Village Health Calendar, providing details of health and sanitation activities of the villages, was very poor (38/260). Similarly record keeping like health register (159/260), demographic data (89/260), and regular meetings records (148/260) etc. was extremely poor.

Coming to provisioning of common facilities in villages the role of VHSCs in providing safe drinking water was very impressive (250/260). However, their role in keeping good sanitation conditions and community toilets was extremely poor in all the states excepting Tamil Nadu.

Functioning of Accredited Social Health Activists (ASHA)

Under NRHM introduction of ASHA as a link between the community and the rural health system was to motivate and help vulnerable sections like poor, women and children, to improve their accessibility to the basic health services at the time of their need. The facility survey elicited information about functioning of ASHAs in the selected villages through structured schedule as well as focus group discussions to highlight their knowledge and awareness about their roles and responsibilities under the programme. Functioning of ASHAs in six states, as still ASHA scheme has not been implemented in Tamil Nadu, is discussed in the following sections.

We have interacted with 307 ASHAs from 288 villages stretched over 32 districts in six states. Most of the ASHAs i.e. 95% are staying in the serving villages. Further, 72% of the ASHAs have reported to be paid compensation for the services rendered by them excepting proportionate ASHAs being paid are very low in UP (23/75) and Jharkhand (25/50). However, ASHAs are supposed to have some advance money for emergency transport but only 25% of them have reported to have the advance money. Most of the ASHAs have reported about providing counselling, distribution of common medicines and frequent home visits. They have also reported coordination with other grass root health workers, excepting their interactions with self help groups was reported to be minimum i.e. 16%. Overall functioning of ASHAs seems to be satisfactory in all the states.

Facility Performance Scores

Selected key indicators for performance of facilities, availability of infrastructure, capacity building, facility services utilization, etc. under NRHM initiatives have been provided in Table 7.1. It may be of interest to mention that as far fertility and mortality indicators are concerned Tamil Nadu and Jharkhand are discerned to be doing much better compared with UP, MP, Assam and Orissa. Perusal of Table 7.1 also reveals that as far as physical infrastructure per lakh population is concerned viz. PHCs, CHCs, FRUs; J&K is far ahead of even state like Tamil Nadu and much better than many other states under the purview of the study. Coming to utilization of public health facilities for services like ANC and PNC Tamil Nadu is the best and

thereby J&K and Orissa and worst states are UP, MP and Assam. Coming to Institutional deliveries Tamil Nadu is the best performing state and Jharkhand is at the bottom.

Table 7.1: State Level Key Indicators from Facility Survey Results

Indicators	UP	MP	Jharkhand	Orissa	Assam	J & K	Tamilnadu
IMR (2008-09)	67	70	46	69	64	49	31
TFR (2008)	3.9	3.4	3.2	2.4	2.7	2.3	1.6
MMR (2006)	440	335	312	303	154	154	111
ASHA per 10000 Pop (2009)	8.9	8.4	16.8	10.3	10.3	11.6	17
ASHA Trained (%)	96.0	90.0	98.0	99.6	100.0	97.3	100
Average Distance of SC	1.9	3.3	2.5	2.7	2.3	6.1	2.07
Average Distance of PHC	4.5	9.1	8.7	6.2	5.4	13.7	5.55
Average Distance of CHC	12.0	18.8	11.3	14.5	15.5	28.8	13.47
PHC (Per Lakh Pop) 2009	2.42	2.25	1.4	3.82	3.3	4.45	3.85
CHC (Per Lakh Pop) 2009	0.34	0.53	0.82	0.69	0.4	1.01	0.65
FRU (Per Lakh Pop) 2009	0.08	0.17	0.07	0.15	0.24	0.63	0.92
Full ANC rural (%) DLHS-3	2.8	7.9	7.7	22.7	7.5	29.3	51.9
Rural PNC (%) DLHS-3	30.9	32.5	28	28.5	29.8	50.5	96.9
% Institutional Deliveries (2008)	22	29.7	19.2	38.7	22.7	54.3	90.4
Full Immunization (% Rural)	29.4	31.4	52.4	61	46.9	60.3	84.4

To highlight the relative performance we have elicited a composite index reflecting performance in terms of availability and utilization of facilities in different states. The methodology adopted for the composite indexing is of Human Development Index which ranges between 0 and 1 for each indicator for each state. The index encompasses utilization of distance of actual from the minimum to the range of the values for different indicators, and thereby summing up the individual scores to get a composite index reflecting overall performance of each state. The scores are furnished in Table 7.2.

Perusal of Table 7.2 reveals that Tamil Nadu depicts best performance in terms of composite index elicited out of the 17 indicators with score of 13.98. Thereafter Jharkhand, Orissa, Assam and J&K depict the moderate performance and UP and MP figures last in the ranking. All these results are consistent with general expectations as the States like UP and MP turn out to be at the bottom and Tamil Nadu at the top in terms of health infrastructure, human resource, capacity building, utilization, etc.

Table 7.2: State Level Facility Performance Scores

Indicators	UP	MP	Jharkhand	Orissa	Assam	J & K	Tamilnadu
IMR (2008-09)	0.077	0.000	0.615	0.026	0.154	0.538	1.000
TFR (2008)	0.000	0.217	0.304	0.652	0.522	0.696	1.000
MMR (2006)	0.000	0.319	0.389	0.416	0.869	0.869	1.000
ASHAs per 10000 Population (2009)	0.058	0.000	0.977	0.221	0.221	0.372	1.000
ASHA Trained (%)	0.601	0.000	0.800	0.961	1.000	0.730	1.000
Average Distance of SC	1.000	0.669	0.859	0.811	0.902	0.000	0.962
Average Distance of PHC	1.000	0.497	0.547	0.818	0.902	0.000	0.886
Average Distance of CHC	0.958	0.569	1.000	0.816	0.761	0.000	0.876
PHC (Per Lakh Pop) 2009	0.334	0.279	0.000	0.793	0.623	1.000	0.803

Indicators	UP	MP	Jharkhand	Orissa	Assam	J & K	Tamilnadu
CHC (Per Lakh Pop) 2009	0.000	0.284	0.716	0.522	0.090	1.000	0.463
FRU (Per Lakh Pop) 2009	0.012	0.118	0.000	0.094	0.200	0.659	1.000
Full ANC rural (%) DLHS-3	0.000	0.104	0.100	0.405	0.096	0.540	1.000
PNC Rural (%)	0.042	0.065	0.000	0.007	0.026	0.327	1.000
% Institutional Deliveries (2008)	0.039	0.147	0.000	0.274	0.049	0.493	1.000
Full Immunization (% Rural)	0.000	0.036	0.418	0.575	0.318	0.562	1.000
Ranking Scores	4.122	3.304	6.725	7.392	6.733	7.785	13.989

Household Survey

An important objective of the present study was to assess the availability, adequacy and utilization of health services in the rural areas, the role played by ASHAs, AYUSH in creating awareness of health, nutrition, sanitation and hygiene among the rural population and to identify the constraints and catalyst in the implementation of the NRHM..

The household schedule comprised main sections including socio-economic and demographic characteristics of members of the household, details about utilization of ANC by the pregnant women, utilization of the delivery and post-natal care for children aged 0-5 years, utilization of immunization services for children aged 1-5 years, details of Chronic Diseases and Illness and treatment sought by the family members in the households during three months prior to the survey., Additionally information was elicited over benefits of Janani Suraksha Yojana (JSY), sources of health services, etc. in the surveyed villages. Further, we gathered information about awareness about NRHM, ASHA, JSY, existence of VHSC, etc. and also client's satisfaction with the health services. Additionally, details about consumption of food items in the households, inventories and conveniences like toilet, water, etc. was also elicited from the households. It may be of interest to mention that in Tamil Nadu we found that still ASHA was not in place in the villages, so the ASHA's questionnaire was canvassed with Auxiliary Nurse Midwives or Village Health Nurses at the SC level in the villages in Tamil Nadu and the relevant information has been utilized for the analysis.

Background Characteristics

It may be of interest to mention that background characteristics of households and utilization of basic health services by eligible respondents, though selected with the objective criterion laid down for the study with the objective criteria of having households with pregnant women, lactating women, mothers with children 1-5 years of age and households with at least one chronic patient are quite close to the national level statistics. Proportionate pregnant women utilizing antenatal care (78%), institutional delivery care (56.7%), postnatal care (49.4%), vaccinations under children immunization programme turned out to be more than 90% for BCG as well three doses of DPT, but for Measles it was much lower (61.4%). Proportionate couples using family planning services was 56%. All these combined rates of utilization for delivery care, family planning, and children immunization are quite close to the national level figures furnished in the public documents (NRHM, 2009). Thus, validation of data reflects the analysis carried out in the study would be appropriate for generalizations also.

The analysis clearly reflects that NRHM initiatives have increased basic health care delivery at all levels viz. three-tier health system, in the Indian context. Ranking of states as per obstetric care is concerned UP, MP, Tamil Nadu, and Assam are doing much better than

Jharkhand, J&K and Orissa. Regarding PNC almost all states have reported PNC care by more than 65% of the lactating women excepting J&K with 57% utilization. Almost similar percentages of lactating women have reported to be JSY beneficiaries. Institutional deliveries are reported to be highest in Tamil Nadu (96.6%), followed by MP (63.3%), Assam (56.9%), Orissa (52.6%), Jharkhand (46.1%), UP (45.8%) and lastly J&K (38%). Usage of family planning services, public or private, is reported to be maximum in Assam (65.5%) followed by Tamil Nadu (63.3%), J&K (61.6%), Jharkhand (54.7%), MP (53.7%), Orissa (53.4%) and lastly UP (42.3%). However, usage of family planning is mostly from public health facilities and moreover maximum proportions have been mainly motivated by ASHAs or ANMs. As far as utilization of public vs. private health facilities for chronic disease treatment is concerned majority of the patients are utilizing public health facilities in Tamil Nadu (94%), Assam (90.3%), Orissa (86.8%), J&K (83.5%), Jharkhand (69.8%), MP (63%) and UP (44.6%). Overall utilization being poor in UP, MP and Jharkhand reflects that may be quality of basic health care may be poor in these states compared to others where the utilization is almost above 85%.

Awareness about ASHA scheme being much higher than about NRHM clearly reflects that possibly JSY scheme and role of ASHA has brought much higher awareness about these NRHM initiatives compared with other like VHSCs or VHNDs. Interestingly source of knowledge about these initiatives are predominantly ASHA/ANM and not print or electronic media. Also most of the ASHAs are reported to be carrying kits and are also reported to be involved in counselling over sanitation and hygienic practices as well as distribution of common medicines. Possibly, ASHAs role seems to be quite important in at least increasing the awareness about the key health care initiatives of NRHM to increase utilization of obstetric and child care.

Possibly, consolidation of ASHAs scheme by mentoring and retraining, inclusive of administering vaccinations, would further enhance antenatal and child care. Thus, more attention is needed for the improvement of existing infrastructure, adequate upgradation of health facilities including drugs, doctors and equipments in most of the lagging states. Nevertheless, institutional deliveries have accelerated and safe home deliveries too have improved over the period. Most of the public health facilities are getting utilized by more and more healthcare seekers. JSY beneficiaries are more than the institutional deliveries in some of the High-focus states like Jharkhand, basically because of home deliveries being covered under JSY in High-focus states. Schemes like *Matriya Suraksha Yojana*, being introduced in Haryana for better pregnancy registration and of course with an alternate objective of reduction in skewed sex ratio at birth, can be beneficial for the right objectives of provisioning of better nutrition for pregnant and lactating women in High-focus states would bring around better results for reduction in maternal, infant and child mortality.

Surprisingly, despite lot of efforts in mainstreaming AYUSH it was discerned that only 0.5% (9/1534) of the chronic patients had opted for treatment under AYUSH comprising of 8 under Ayurveda and only 1 under Unani system of Indian Medicines. Further, disease for which these chronic patients had opted for AYUSH comprises of 2 suffering from Asthma, 2 with Tuberculosis, 5 with Joint Pains/others. Further, 6 out of 9 patients opting for the Indian system of medicines (AYUSH) is from UP, 2 from MP and only 1 from Orissa. Possibly, more innovative interventions are required to mainstream the AYUSH in rural India.

Functioning of VHSCs and VHNDs scheme needs to be monitored for its increased effectiveness for which these were meant. Though awareness about health services and schemes might have increased but still it needs further strengthening to bring around better results from

NRHM initiatives. It is interesting to observe that utilization of health services have enhanced by the vulnerable/poorer and underserved sections in the rural areas but also its utilization levels have also gone up in higher socioeconomic categories of the rural population.

Determinants of Obstetric Care, Children's Immunization, Family Planning and Chronic Disease Services

The objective of multivariate analysis in the sixth chapter was to highlight linkages between different factors affecting utilization of obstetric care, family planning services and chronic disease treatment from public and private institutions utilizing cross tabular, binary and multinomial logit analytical techniques. We also elicit probabilities of seeking treatment from alternate sources in the multinomial logit model. It may be pointed out that in the multinomial logit model the multiplicative effect on the odds ratio does not reflect the intensity of impact of different background variables as can be revealed by the probabilities.

For antenatal care the analysis was based on information elicited from 1584 pregnant women in the household survey conducted in 7400 households from 296 villages stretched over 37 districts in 7 states under the purview of the study. It was interesting to find that women's education and household income depicted significant and positive impact on the utilization of antenatal care from public as well as private health institutions. Interestingly, role of ASHA turned out to be significant in motivating mothers towards higher utilization of public health facilities for the antenatal care. So ASHA's frequent visits, distribution of common medicines, general counselling on health, sanitation and hygienic practices, depict significant impact in promoting antenatal care amongst pregnant women. Majority of the mothers sought antenatal care from nearby SC/PHC and also distance from the nearby centre becomes significant deterrent for the utilization of public healthcare facility and compels women to opt for private health facilities for seeking the antenatal care. .

For delivery care the analysis was based on information elicited from 4729 mothers during the birth of their youngest child born during last five years. Here again women's age depicted non-linear linkage with the utilization of delivery care and interestingly younger aged mothers use more of delivery care from public health facilities compared with higher aged women mothers. Further, mother's education depicts significant and positive impact on utilization of delivery care. Further, more educated women utilize more of private healthcare facilities compared with public healthcare facilities for the delivery care, possibly reflecting their perception about the quality of care being better in private compared with public health facilities. Again, mothers from households which are visited more frequently by ASHAs, have better sanitation facilities like toilet facility and potable water within residential premises depict significantly higher utilization of public health care facilities compared with private health facilities for the delivery care. It is of interest to note that mothers from villages where village health and nutrition days were held during three months prior to the survey, also depicted higher likelihood of utilization of the delivery care from public health institutions. Thus, role of ASHAs and holding of VHNDs, seem to be playing significant role in increasing institutional deliveries, especially from the public health facilities. Predominantly usage of FRUs for the delivery care in rural areas could be because of adequate facilities like operation theatre, surgeon, gynaecologist and accessibility to blood because of blood bank/storage facilities in the FRUs. Further, distance from the FRU becomes a deterrent for its utilization for the delivery care in rural areas.

The multinomial logit analysis for seeking postnatal care from public vs. private health care facilities is based on information from 4725 mothers during the birth of their youngest child during last five years. Interestingly, women with higher education and from higher income households' depict higher likelihood of utilizing public as well as private health care facilities for the postnatal care. Further, mothers having complicated deliveries depict higher likelihood of utilizing postnatal care compared with mothers having normal deliveries. Again role of ASHA is significant in motivating mothers for using postnatal care, especially from public healthcare facilities. Again distant PHCs depict deterrent effect on their utilization for the postnatal care.

Children's immunization with any vaccine was almost universal, thus binary logit analysis was carried on to highlight factors affecting complete vs. partial vaccination. The analysis is based on information elicited from 4498 mothers about the immunization status of their last born child during last five years. Interestingly, background factors like women's higher education and better economic conditions depict higher likelihood of having children fully compared with the partially immunized. Further, children born in health institutions depict higher probability of being fully immunized compared with born at home. Again role of ASHA turns out to be significant in motivating mothers through frequent home visits, distribution of common medicines and proper counselling for children's fuller immunization.

Usage of contraception methods analysis is based on responses from 7042 couples/women. The analysis reveals that son-preference is still quite deep rooted in our rural areas as likelihood of adopting permanent methods of contraception improves very fast among women with one and two sons compared with women having no son. Again role of ASHA turns out to be significant in motivating women/couples for using both temporary as well as permanent methods of contraception. Interestingly, role of holding village health and nutrition days as well as village health and sanitation committee meetings in rural are also depict significant and positive impact on the likelihood of using contraception methods.

Treatment seeking behaviour of chronic disease patients was based on information elicited from 1534 patients. The analysis reveals that aged patients use more of public vs. private health facilities for treatment of chronic diseases. Interestingly, more educated patients are utilizing more of public compared with private health facilities for the purpose. Coming to program factors ASHA's frequent visits, distribution of medicines and counseling depict significant and positive impacts on utilization of public health facilities for seeking treatment for chronic diseases. Proximity from the first referral units (FRUs) i.e. CHC/DH, also depicts positive impact on the utilization of public health facilities for the chronic disease treatment.

Overall women's individual characteristics like age and education have often been observed to make a significant impact on obstetric health care seeking behavior in rural areas, both from public as well as private health facilities. Further, women's education not only improves their likelihood of seeking obstetric care, but also facilitates utilization of public health facilities for complete immunization of children. More educated women also report higher utilization of contraceptive methods. Nevertheless, we still find son-preference is still deep rooted in rural areas as still usage of permanent methods improves much faster amongst women with at least two sons. It has been observed that women's utilization for PHCs is more for antenatal and postnatal care and for delivery the usage of FRUs, possibly because of proper doctors, drugs, and infrastructure in FRUs compared with the peripheral health facilities.

Role of ASHA turns out to be extremely important in promoting utilization of public health care facilities for MCH care, Family Planning and treatment of Chronic Diseases. Frequent home visits, distribution of common medicines and proper counseling makes significant impact in motivating pregnant women to visit nearby SCs and PHCs for the antenatal care. Further, important role of ASHAs in motivating pregnant women to make use of public health care facilities for delivery care. For delivery care primarily FRUs, implying District Hospitals and Community Health Centers, are getting utilized and seem to be responsible for improvements in the institutional deliveries. As FRUs are supposed to be adequately equipped and staffed for emergency obstetric care because of having proper operation theatres, surgeons, gynecologists and pediatricians, accessibility to emergency transport, ready availability of blood in case of emergency operations, etc. Also ASHA's home visits and counseling promotes utilization of family planning services primarily from public health facilities. Further, the visits and counseling promotes utilization of chronic disease control services for which most of the patients visit District Hospitals for the treatment.

Role of VHNDs and VHSCs meetings seems to be important in motivating people for increased utilization of public health facilities for children's immunization, family planning services, and chronic disease control services. However, proximity to public health facility depicts strong impact on its utilization. Since peripheral health facilities like Sub Centers and Primary Health Centers are primarily utilized for antenatal and postnatal care, family planning services and children's immunization, thus further training and retraining of key health workers like ASHAs, ANMs and VHWs would further promote their utilization. Many a times ASHAs had expressed their desire to include vaccination also in their training schedules and thus it would further strengthen children's immunizations and antenatal care programme.

Since, utilization of FRUs encompassing District Hospitals and Community Health Centers, is predominantly for institutional deliveries and seeking treatment of chronic ailments, thus further strengthening and consolidation of adequate facilities in such institutions and provision of referral or emergency transport in peripheral areas and centers would further promote wider utilization of public health facilities for obstetric care and further improvement in institutional deliveries.

Overall Recommendations to Upgrade Public Health Facilities

A demographic profile discussed in second chapter clearly revealed that secular decline in neonatal component of infant mortality during last five years was witnessed only in Tamil Nadu. However, secular decline in infant mortality rate was observed in all the seven states under the purview of the study. Further, the Maternal Mortality Ratio (MMR) of 254 as per SRS in 2004-06 for India ranges from 111 in Tamil Nadu to 440 in Uttar Pradesh amongst the seven states. Secular declines in MMR have also been observed in all the seven states excepting J&K. Possibly, differentials in obstetric care utilization, children's immunization and nutrition levels apart from overall socioeconomic and cultural background factors are responsible for the differentials and the trends in the basic demographic and health profiles of the states under the purview of the study. Some suggestion based on the analysis to upgrade the existing public health facilities to achieve the broad objectives of NRHM initiatives are as follows:

- Firstly filling of vacant positions of specialists, doctors, and staff nurses, diagnostic-facilities technicians out of the regular health system and thereby supplementation through contractual

appointments under NRHM would facilitate in filling the gaps and augment the utilization of the health services in rural areas.

- Peripheral public health facilities like SCs and PHCs are primarily used for antenatal, postnatal and children's immunization services and thus proper provisioning of ANMs, ASHAs and LHVs and also provisioning of cold chains would facilitate improvements in outreach of the health services in rural areas.
- FRUs (DHs/CHCs) are primarily being used for delivery care and chronic disease treatments and thus strengthening of FRUs with adequate human resource, materials, specialised equipments, drugs, diagnostic facilities, and blood banks/storage-facilities would improved the credibility of FRUs and would also facilitate provisioning of emergency obstetric (EmOC) and emergency care for sick children, and treatment of emergency cases for the chronic diseases at FRUs.
- Provisioning of ambulances at FRUs and referral transport at PHCs and SCs would be more cost effective for strengthening outreach of healthcare services in the rural areas and would facilitate further improvements in the obstetric care, especially institutional deliveries, and treatment for chronic diseases under NDCP initiatives.
- ASHA's mentoring and retraining for updating skills apart from recruitment and routine training would upgrade the quality of services and facilitate further increase in the utilization of existing health facilities and services. Additional training of ASHAs for vaccinations would further strengthen antenatal care and children's complete immunization program.
- AYUSH needs to be invigorated by more innovative interventions as presently hardly anybody with any serious ailment opts for the Indian system of medicines.
- Procurement and supply of drugs needs immediate attention in most of the states as it is hampering the effective utilization of health services. Rather free supply of generic drugs, at least to BPL category persons, would improve the utilization of the health facilities and bring more credibility to the public health system in rural areas.
- Utilization of untied funds, maintenance grants and RKS grants needs to be monitored effectively to improve the preparedness and utilization of the health facilities in rural areas.
- Coordination between key village level functionaries like ASHA, AWW and ANM and involvement of VHSC can bring around effective convergence in terms of nutrition, sanitation, etc. together with quality health services.
- Grievance redressal mechanism for health care users in the form of appointment of ombudsmen at district or block levels can facilitate improvements in the commutization process and increase in the utilization of public health services in rural areas.
- Some innovative schemes like Rural Health Practitioners training and recruitment in states like Assam can be replicated in other states. However, recent decision of Government of India to start Bachelor of Rural Medicine and Surgery course on similar lines is certainly a welcome step.
- Outsourcing of peripheral services like cleaning, catering services, waste management, civil construction, maintenance of buildings, and referral transport services under PPP can reduce

the work load of health officials and thus would facilitate their concentration on strengthening of the health services and would bring around further improvement in the quality of health services.

- District and block level quality assurance teams may be instituted to streamline health quality protocols for different health institutions and identify gaps for corrections to improve the quality of health services in the rural areas.

References:

- Bang R.A, A.T.Bang, M, Baitule, Y. Choudhary, S. Sarmukaddam, and O. Tale. 1989. High Prevalence of Gynaecological Diseases in Rural Indian Women. *The Lancet*, 1989; January 14: 85-88.
- Bhatia, C, Jagdish, and John Cleland. 1995. Self-reported Symptoms of Gynaecological Morbidity and Their Treatment in South India. *Studies in Family Planning* 1995; 26(4): 203-216.
- De Geyndt, Willy. 1970. "Five Approaches for Assessing the Quality of Care," *Hospital Administration* 15(1): 21-42.
- _____. 1995. *Managing the Quality of Health Care in Developing Countries*. Washington: World Bank Technical Paper Number 258.
- Esselstyne, Caldwell B. 1958. "Principles of Physician Remuneration." *Papers and Proceedings of the National Conference on Labour Health Services*; Washington, D.C.: American Labour Association.
- Vera, Hernan. 1993. "The Clients View of High-Quality of Hospital Care in Santiago, Chile," *Studies in Family Planning* 24(1): 40-49.
- Verma, Ravi K., T.K.Roy and P.C.Saxena. 1994. *Quality of Welfare Services and Care in Selected Indian States*, Mumbai: IIPS.
- Gulati, S.C. 1996. "Contraceptive Use in India, 1992-93: National Family Health Survey Subject Reports, No 2, October 1996; International Institute for Population Sciences, Mumbai, India and East-West Center Program on Population, Honolulu, Hawaii, USA. (With B.M.Ramesh and Robert D. Retherford).
- _____. 1998. "Cost Effectiveness of Health and Family Welfare Programs in India", *Demography India*, Vol. 27. No 1, pp. 167-178.
- _____. 2004. *Quality of Care in Delivery of Health and Family Planning Services*, Packard Foundation Project on Demographic Trends in Bihar and Jharkhand, Institute of Economic Growth. (With P.N.Mari Bhat, Pradeep Guin, Rini Lal).
- _____. 2007. *Unmet Need for Family Planning in Bihar*, Packard Foundation Project on Demographic Trends in Bihar and Jharkhand, Institute of Economic Growth (With P.N.Mari Bhat, Pushpita Dutta, Raghubansh Mani Singh).
- _____. 2008. "Women's Reproductive Morbidity and Treatment Seeking Behavior in India", *Asian population Studies*, National University of Singapore, (With Alok R. Chaurasia and Raghubansh M Singh).
- _____. 2008. *India: The State of Population-2007*; Oxford University Press, (With Alok Ranjan Chaurasia)
- _____. 2009. *Rapid Appraisal of NRHM Implementation*, Sponsored by Ministry of Health and Family Welfare, Govt. of India, Institute of Economic Growth. (With Raghubansh Mani Singh, Arundhati Kumari, Rajesh Raushan, Gagandeep Kaur)

-
- _____. 2009. "Contraception in India: Exploring Met and Unmet Demand", *World Health and Population*, 10(2) 2008; Longwood's Publishing Corporation, Toronto, (With Alok R. Chaurasia and Raghubansh M Singh).
- _____. 2009. "Women's Reproductive Tract Infections in India: A District Level Analysis" *International Institute for Population Sciences (IIPS) Golden Jubilee Seminar Volume*, 2009.
- _____. 2009. "Determinants of Infant Mortality in India: A District Level Analysis", in *Child Survival and Health India 2009* (Ed.) Alok Ranjan, 2009. (With Raghubansh M Singh).
- Bongaarts, John. 1997. The proximate determinants of unwanted childbearing in the Developing World; Paper presented at the 1997 Annual Meeting of the Population Association of America, Washington, D.C., 27-29 March.
- Casterline John B. and Steven W. Sinding. 2000. Unmet Need for Family Planning in Developing Countries and Implications for Population Policy, Population Council, New York.
- International Institute for Population Sciences (IIPS) and Macro International, 2000 National Family Health Survey (NFHS-2), 1998-99: India. Mumbai:
- _____. 2006. Reproductive and Child Health, District Level Household Survey, 2002-04: India, Mumbai.
- _____. 2007. National Family Health Survey (NFHS-3), 2005-06: India. Mumbai:
- _____. 2009. National Family Health Survey (NFHS-3), 2005-06: India. Mumbai:
- Jones, G., W. Schultink, and M. Babilie. 2006. "Child Survival in India," *Indian Journal of Pediatrics*, 73: 479-87.
- Ministry of Health and Family Welfare (MoHFW), 2000. National Population Policy: 2000.
- _____. 2004. India Country Report: Population and Development-10 Years since ICPD, Government of India.
- _____. Reproductive and Child Health, District Level Household Survey 2002-04; International Institute for Population Sciences.
- _____. National Family Health Survey (NFHS-3), 2005-06, International Institute for Population Sciences.
- _____. 2009. Annual Report: 2008-09, Government of India.
- _____. 2007. "Indian Public Health Standards (IPHS) for Community Health Centers", Government of India.
- _____. 2007. "Indian Public Health Standards (IPHS) for Primary Health Centers", Government of India.
- _____. 2007. "Indian Public Health Standards (IPHS) for Sub Centers", Government of India.
- National Health Systems Resource Center (NHRC). 2009. Mainstreaming AYUSH & Revitalizing Local Health Traditions under NRHM, National Health Systems Resource

-
- Center, NRHM and Ministry of Health and Family Welfare, Government of India, New Delhi.
- National Rural Health Mission (NRHM). 2005. Accredited Social Health Activist (ASHA) Guidelines, Ministry of Health and Family Welfare.
- _____. 2009. State Data Sheets as on 31.08.2009, Government of India.
- Oomman, Nandini, 2000. A decade of research on reproductive tract infection and other Gynaecological morbidity in India: What we know and what we do not know. *In* Radhika Ramasubban, and Shireen Jeejeebhoy (eds.), *Women's Reproductive Health in India*. Jaipur, India: Rawat Publication.
- Ramesh Chellan. 2004. Gynaecological Morbidity and Treatment Seeking Behaviour in South India: Evidence from the Reproductive and Child Health Survey 1998-99, *Journal of Health and Population in Developing Countries, 2004*; School of Public Health, University of North Carolina at Chapel Hill.
- Rangaiyan, G. and S. Surender, 2000. Women's Perceptions of Gynaecological Morbidity in South India: Causes and Remedies in a Cultural Context; *The Journal of Family Welfare 2000*; 46(1): 31-38.
- Rani, Manju and Sekhar Bonu, 2003. Rural India Women's Care Seeking Behaviour and Choice of Provider for Gynaecological Symptoms. *Studies in Family Planning 2003*; 34(3): 173-185.
- Registrar General, India. 2001. Population Projections for India and States: 1996-2016.
- _____. 2009. SRS Bulletin, Sample Registration System, Vital Statistics Division, Registrar General of India.
- Retherford, Robert D. and Minja Kim Choe. 1993. Statistical Models for Causal Analysis, John Wiley & Sons Inc.; New York.
- Robey B. Ross J & Bhushan I. 1996. Meeting Unmet Need: New Strategies; Population Reports, Series J, No. 43. Baltimore, Johan Hopkins School of Public Health, Population Information Program.
- Shireen J. Jeejeebhoy (Ed.). 2004. Looking Back, Looking Forward: A Profile of Sexual and Reproductive Health in India. New Delhi: Rawat Publications
- Westoff C.F, Bankole A. 2000. Trends in the demand for family limitation in developing countries, *International Family Planning Perspectives*, Vol. 26, No 2.
- World Health Organization (WHO), 1990. Measuring Reproductive Morbidity: *Report of a Technical Working Group*, 30th August-1st September, Geneva.
- Zurayk, Huda Khattab, Nabil HindYounis, El-Mouelhy, Mawaheb and Fadle, Mohamed, 1993. Concepts and measures of reproductive morbidity; *Health Transition Review*, 31: 17-39.

Appendix A.1: Descriptive Statistics of the Selected Variables under Study

Variable	Description of the Variable	Min.	Max.	Mean	Std. Dev.	N
PWANCTD	Pregnant Women gone for ANC	0	2	0.82	0.475	1,584
DCTD	Delivery care	0	2	0.68	0.583	4,729
LWPNCTD	Lactating Women Place of PNC	0	2	0.52	0.552	4,725
FPMUTD	Family Planning method Use	0	2	0.68	0.716	7,400
CIMBD	Complete immunization	0	1	0.59	0.492	4,498
CDBD	Chronic Disease Treatment	0	1	0.74	0.438	1,534
PWAGE	Women Age for Ante-natal Care	17	48	24.99	3.831	1,584
PWEDN	Women Education for Ante-natal Care	1	8	2.23	1.358	1,584
WAGEPNC	Women Age for Post-natal Care	18	55	26.42	4.381	4,725
WEDNPNC	Women Education for Post-natal Care	1	8	2.21	1.283	4,725
CDPAGE	Age of Chronic Disease Patients	1	110	44.59	17.569	1,534
CDPEDN	Education of Chronic Disease Patients	1	7	2.09	1.240	1,534
TOHBD	Type of Household	0	1	0.67	0.469	7,400
SKBD	Separate Kitchen in house	0	1	0.40	0.490	7,400
STF	Separate toilet facility	0	1	0.65	0.475	7,400
SODWBD	Regular Source of Drinking Water	0	1	0.63	0.482	7,400
FUCBD	Fuel used for cooking	0	1	0.88	0.325	7,400
PCIRANG	Per Earner Income Range	1	5	2.89	1.182	7,400
LDC	Last Delivery N/Complicated	0	1	0.05	0.212	4,729
DCTDN	Place of delivery	0	1	0.62	0.487	4,729
NLS	Number of Sons	0	6	1.27	0.842	5,596
ASHAVBDTN	ASHA/VHN Visit	0	1	0.54	0.498	7,400
ASHAMBDTN	ASHA/VHN carrying medicines	0	1	0.84	0.368	7,020
ASHASBDTN	ASHA/VHN counselling	0	1	0.76	0.429	7,020
VHNDBD	Village Health & Nutrition Day	0	1	0.54	0.498	7,400
VHSCBD	Village Health and Sanitation Committee	0	1	0.42	0.493	7,400
DFRU	Distance of village from FRU (DH/CHC)	5	125	40.09	24.936	7,400
DPHC	Distance of village from PHC	0	88	9.07	9.722	7,400

Appendix A.2: Details of Surveyed States, District, Facilities and Villages

State	State Code	District	Dist Code	CHC	CHC Code	PHC	PHC Code	Village	Vill. Code
Uttar Pradesh	1	Mathura	1	Baldev	1	Pachawar	1	Jharota	1
								Nagla Rai Singh	2
						Jugsana	2	Jugsana	3
								Awairani	4
				Govardhan	2	Sounkh	3	Paintha	5
								Son	6
						Kosi Khurd	4	Rasulpur	7
								Mahorra	8
		Saharanpur	2	Rampur	3	Bhakla	5	Ghateda	9
								Calarpur Gurger	10
						Pahashoo	6	Nenekheda	11
								Ahmadpur	12
				Nakur	4	Ambetapur	7	Ambethi	13
								Kheda Afghan	14
						Taber	8	Kazi bash	15
								Nashrullagarh	16
		Mohoba	3	Charkhari	5	Gaurhari	9	Karhara khurd	17
								Mausara	18
						Kharela	10	Pahretha	19
								Kua	20
				Panwari	6	Koniha	11	Kashipura	21
								Teia	22
						Killawa	12	Chhatesar	23
								Paharia	24
		Sultanpur	4	Akhand Nagar	7	Mudiladi	13	Malikpur	25
								Maghgora	26
						Baramad	14	Belwai	27
								Pupaipur	28
				Dhanpathgang	8	Mayang	15	Saywara	29
								Saymrowona	30
						Dehili Bazar	16	Pahreay	31
								Anger	32
		Mau	5	Ghosi	9	Kalayn pur	17	Itrowa dori pur	33
								Pirrawal	34
						Sipah Ibrahimabad	18	Jham Ditt	35
								Sipahibrahima vrad	36
				Mohambad	10	Bhadhrr	19	Bhadhrr	37
								ittora	38
						Bhat Kal	20	Bhirra	39
								Devikali	40

State	State Code	District	Dist Code	CHC	CHC Code	PHC	PHC Code	Village	Vill. Code
								Devlaspur	
		Unnao	6	Nabab Ganj	11	Chamrouli	21	Sarosa	41
						Makur	22	Ajgayan	42
				Purva	12	Chamyani	23	Dilwal	43
						Garha Kola	24	Raipur Garhi	44
								Semari Mau	45
								Tipurar Pur	46
								Behta	47
								Bhawadi	
								Pakra Bujurg	48
Madhya Pradesh	2	Katni	7	Rithi	13	Badgaon	25	Majhgawa	49
								Rudmood	50
						Bilheri	26	Badkhera	51
						Badagaon	52		
				Umaria Pan	14	Khamtara	27	Jhinn-Piparia	53
						Silodi	28	Pahrua	54
								Raura	55
								Atarsooma	56
		Nimach	8	Sigoli	15	Kadbasa	29	Kijya	57
								Parlaee	58
						Kakrima	30	Kakriya	59
								Umar	60
				Manasa	16	Parrdha	31	Bharkhera	61
						Fukrashewar	32	Alhair	62
								Ahmed	63
								Moma	64
		Vidisha	9	Nateran	17	Shamsabad	33	Bhiakhedi	65
								Daffariyai	66
						Mahoo	34	Jathoda	67
								Phofer	68
				Gyaraspur	18	Gulabganj	35	Swjana	69
						Hadergarh	36	Mangwara	70
								Dhamnod	71
								Gunnotha	72
Shivpuri	10	Badarwass	19	Khatora	37	Bhijhroni	73		
						Pironth	74		
				Rannod	38	Akajhiri	75		
						Mathna	76		
		Karera	20	Amol patha	39	Rajgarh	77		
				Dinara	40	Amola	78		
						Dinara	79		
						Thanra	80		
Hoshangabad	11	Sukhtawa	21	Jamani	41	Gochitaronda	81		
						Bhatti	82		
				Tangha	42	Satpura	83		
						Chitapura	84		

State	State Code	District	Dist Code	CHC	CHC Code	PHC	PHC Code	Village	Vill. Code		
				Shuhagpura	22	Semri	43	Guramkhedi	85		
								Barangi	86		
						Kamte	44	Kharpawad	87		
								Kamti	88		
				Dhar	12	Vadnavar	23	Doliya	45	Vorda	89
										Bhesola	90
						Kushi	24	Vidwal	46	Chirayan	91
										Koodh	92
		Haldi	47	Dehri	48	Bhimpura	93				
						Ali	94				
						Logsi	95				
						Teekkii	96				
		Jharkhand	3	Ranchi	13	Mandhar	25	Kamkum	49	Sukur Hattu	97
										Rampur	98
								Kanke	50	Gagi	99
										Barkatoli	100
Bundu	26					Ratu	51	Tanger	101		
								Lundri	102		
						Channo	52	Hehal	103		
								Sinrol	104		
Dhanbad	14					Chasnal	27	Bhaga	53	Shalimar	105
										Barai	106
								Jharia	54	Horla Dih	107
										Dhanua Dih	108
				Nirsa	28	Chirkunda	55	Mehha	109		
								Dumar Kunda	110		
						Bena garia No.1	56	KhokhraPahari	111		
								Urma	112		
Giridih	15			Jamua	29	Nodeeh	57	Chitra Dih	113		
								Bhupat Deeh	114		
						Mirjaganj	58	Charghara	115		
								Pobi	116		
				Birni	30	Tula deeh	59	Muraina	117		
								Bangra Kala	118		
						Barhmasia	60	Pesum	119		
								Shital Tola	120		
								Tonto	31	Tontogram	121
										Guddi Poshi	122
Jugal Hat	62			Baheriya	123						
				Bal Jodi	124						
		Tat Nagar	32	Khath Bhari	125						
				Kenjhar	126						
Hatt Ghumariya	64	Puranvasi	127								
		Pueedi Gutti	128								
Chatra	17	Itkhori		Giddhor	65	Dwari	129				

State	State Code	District	Dist Code	CHC	CHC Code	PHC	PHC Code	Village	Vill. Code				
					33			Nawadih	130				
					33	Johri	66	Kobna	131				
					33			Pandepura	132				
				Cimaria	34	Lawalong	67	Kolkole	133				
					34			Lamta	134				
					34	Jabra	68	Bailgadh	135				
					34			Baggara	136				
Orissa	4	Rayagarh	18	Bissam Cuttak	35	KhemBesi	69	Kurli	137				
								Chatilona	138				
						Durgi	70	Kumar	139				
								Dhamani	140				
						Bethia Pada	71	Bethia Pada	140				
								Dango Badi	141				
				Muniguda	36	Ambodola	71	Pirani Pinda	142				
						Kumuda Bali	72	Agula	143				
							72	Mudra	144				
				Bolangir	19	Loisingha	19		37	budi Munada	73	Uparbahal	145
												Sargada	146
										Kusanga	74	Kusanga	147
			Tali Udhar			148							
		Saintala	38			TikraPada	75	Jarbahli	149				
								Jura Bandh	150				
				Belgaon	76	Kusmel	151						
			Kuanr Gaon		152								
		Kendhujhar	20	Hari Chandan Pur	20		39	Jehangira	77	Jehangira	153		
										Barbil	154		
								Bhagamunda	78	Bhagamunda	155		
					Sagadpatta	156							
				Udaypur	40	Raidiha	79	Digposi	157				
								Tentraposi	158				
		Shoharpada	80			Machagarh	159						
	Demuda		160										
Kendrapara	21	Raj Nagar	21		41	Gupti	81	Hatina	161				
								Balrampur	162				
						Ishwarpur	82	Ishwarpur	163				
								Dighi	164				
		Mahakal Pada	42	Ram Nagar	83	Godhiamal	164						
						Kharinesi	165						
		Babar	84	Jambo	166								
				Gagua	167								
Puri	22	Gop	22		43	Nayahat	85	Kalinga	168				
								Bolanga	169				
						Chitana	86	Khadisha	170				
			Bhaun	171									
		Chandanpur						Dobandha	87	Inchera	172		
										Hantuka	173		

State	State Code	District	Dist Code	CHC	CHC Code	PHC	PHC Code	Village	Vill. Code				
					44			Chamarkhera	174				
						Chalis Batia	88	Tala Junga	175				
								Malti Patpur	176				
Assam	5	Barpeta	23	Chenga	45	Gahiya	89	Singra	177				
								Rauly	178				
								Bahari	90	Kalita Para	179		
					Nagaon	46	Bhella	91	Banbaria	181			
									Sila	182			
									Keot Kuchi	92	Baradi	183	
				Sonit Pur		24	DhekiaJuli	47	Doomdooma	93	Sirajuli	185	
											Bindukuri	186	
											Borsola	94	Bassasimalu
					Chariduar		48	Dipota	95	Alimabad	189		
										sankarmaiban	190		
										Holeswar	96	Sita basti	191
		Darrang	25	Sipajhar	49	Garu Khuti	97	Sanowa	193				
								Hathi Murua	194				
								Haza Rika Para	98	Pitna	195		
						Patni Ghat	50	Hengal Para	99	Haldha	197		
										Burha	198		
										Duni	100	Berua Dol	199
				Dibrugarh	26		Morantilo	51	Lengeri	101	nakhat	201	
											Iangapani	202	
											Sessughat	102	Sensuwa
						Naharani	52	Tingkhong	103	Dhaman salmari	205	Nahazar	204
												Naharani	
												Ratanpur	206
Cachar	27	Sonai	53	Harina	105	Moti Nagar	209						
						Didar Kush	210						
						Sonbari ghat	106	Saidpur	211				
			54	Bidya Ratan Pur	107	Jamalpur	214	Dhamalia	212				
								Bidyaratn Pur	213				

State	State Code	District	Dist Code	CHC	CHC Code	PHC	PHC Code	Village	Vill. Code		
Jammu & Kashmir	6	Jammu	28	Akhhoar	55	Narsing Pur	108	Kazidor	215		
								Kamak Pur	216		
						Jourain	109	Bomal	217		
								Muthi Mera	218		
						Mera Mandariah	110	Piyan	219		
								Bruee	220		
				Bishnah	56	Arina	111	Makhanpur	221		
								Laswara	222		
						Rehal	112	Khojipur	223		
								Khairi	224		
						Chenani	57	Sudh Mahadev	113	Montalai	225
										Bashat	226
		Jaganoo	114	Sangoar	227						
				Jakhani	228						
		Ram Nagar	58	Chanunta	115			Nagrota	229		
								Dhandal	230		
				Bhugtarain	116	Dehari	231				
						Kheen	232				
		Doda	30	Bhaderwah	59	Bhalla	117	Dranga	233		
								Berru	234		
						Chinta	118	Bhalra	235		
								Drudu	236		
						Gandoh	60	Changa	119	Kencha	237
										Batar	238
				Mallano	120			Kilotra	239		
								Khara	240		
				Baramula	31	Tangmarg	61	Gulmarg	121	Bandbala	241
										Druncy	242
		Hariwatno	122					Druroo	243		
								Warpoora	244		
		Pattan	62					Gund Khwaja	123	AgriKalan	245
										Matipara	246
Wanigon	124					Yadipara	247				
						Haemery	248				
Badgam	32	Chattargam	63			Chanpara	125	Machwa	249		
								Kral Para	250		
				Lasjan	126	Shalina	251				
						Summerbagh	252				
				Beerwah	64	Gondi para	127	Charnggam	253		
								Sail	254		
				Ari Patan	128	Inchna	255				
						Kandhoma	256				
Tamil Nadu	7	Kanchipuram	33	Thiruppukuzhi	65	Avloor	129	Asoor	257		
								Velaiyanar	258		
						Perumbakkam	130	Thirukali Kedu	259		

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								Matha Patti	260				
				Prandur	66	Ayyam Patti	131	Thimayan	261				
						Walazabad	132	Villivalam	262				
		Salem	34	Panamarathu Petty	67	Mallur	133	Nathanallur	263				
									Kondalam Petty	134	Uthakkudu	264	
						Nangavalli	68	Sanththana Petty	135	Nalikkyl Petty	265		
										Kattur	266	Vengyam Petty	266
										Komburen Kedu	136	Neikkara Petty	267
												Desai Nagar	268
		Madurai	35	Checkunurani	69	T.Pudu Pattai	137	Andikkarai	269				
									Sathan Gudi	138	Kunjan Diyur	270	
						Kallandiri	70	Otha kadai	139	P.Udaradair	271		
										Rajakoor	140	Desai Nagar	272
												M.Kallupatti	273
												Sithireddi patti	274
		Tuticorin	36	Keela Eral	71	Erachi	141	Vagai Kullam	275				
									Villiseri	142	Panni Kundu	276	
						Pudu Kettai	72	Mappailaiura	143	Suthanthira Nagar	277		
										Mudiyaitha Nendal	144	Kuoi Kulam	278
												Varichiyur	279
												Karuppaya Rani	280
		Nagapattinam	37	Thiru Ponndi	73	P.R.Puram	145	Erachi	281				
									Villunthamavadi	146	Kulasakara	282	
						Thirumarugal	74	Tittachery	147	Inam	283		
										Thirukanna Pura	148	Maniyachi	284
												Nalantin	284
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								Vettaikarani Uppu	292				
								Titta Chery I	293				
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