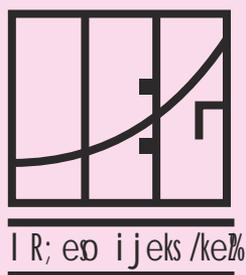


Evaluation Study of NRHM

By
Institute of Economic Growth
University of Delhi
February 2011

Sponsored by Planning Commission of India
(with a foreword by NHSRC and a listing of other important evaluation studies)



S.C. Gulati
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A NHSRC Publication

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Evaluating the National Rural Health Mission... and the Challenges of Evaluation of Complex Health Interventions

Foreword:

In scope and complexity the National Rural Health Mission has few parallels in India or globally. Although several evaluations of the National Rural Health Mission and its many component programmes were undertaken, there tends to persist, amongst key policy makers and in the academic community the perception that the NRHM has never been evaluated, and therefore its outcomes remain questionable. The many evaluation studies of the NRHM and its components, which are listed in this book, are either unknown or unfamiliar to both public and public health practitioners, or are seen as inadequate and incomplete by the academic and public policy community. This is despite the fact that several of these large scale, adequately financed studies, were conducted by eminent national and international researchers and policy advisors. These include a study by the Institute of Economic Growth¹, whose summary is published in this book, the concurrent evaluation by the International Institute of Population Sciences², and the study by the International Advisory Panel³.

There are many reasons for the general lack of awareness about these studies. Peer-reviewed journals have their own set of priorities and preferences, and it has been difficult for practitioners who have financed or conducted these studies to convert them into publications that suit the norms of dissemination into such spaces. Even if these were to be published, most decision makers and programme managers would not be able to readily access this. There is also the problem that decision makers often hold strong perceptions, and evidence that is counter-intuitive or goes against commonly held perceptions tends to be dismissed.

Also, unlike studies financed by external donor assistance, studies financed by government agencies often serve the interest of information for planning or review, and thus little effort is spent on dissemination. A recent study of evaluations of the NRHM showed

¹Evaluation covered 555 public health facilities, 296 villages and 7400 households in seven states

²Concurrent evaluation covered 2,13,067 households in 187 districts across 33 states

³Midterm evaluation covered five District programme management units, 110 public health facilities, 97 ASHAs and 52 PRI/ VHSNC/ RKS members in five districts in three states

“A recent study of evaluations of the NRHM showed that other than the reports of the annual Common Review Missions, neither the public, nor the health systems managers, nor even many key decision makers had read or even heard of these studies.”

“In order to shape a more informed public understanding about public health systems, not only studies but even simple documentation with some level of analysis and interpretation must be widely available in the public domain.”

“The other problem with evaluation studies is the lack of confidence in the conclusions of any given study, on account of contestations over methodology.”

that other than the reports of the annual Common Review Missions, neither the public, nor the health systems managers, nor even many key decision makers had read or even heard of these studies. The Common Review Mission process is designed to have a high degree of participation in the assessment process itself and the culmination of the CRM is a national dissemination event. No such equivalent has happened for publicly financed evaluation studies.

It is in this context that the NHRM has undertaken to publish and disseminate these evaluation studies. It is important for the public to know about these studies- because political priorities are to a significant extent influenced by public perceptions. In order to shape a more informed public understanding about public health systems, not only studies but even simple documentation with some level of analysis and interpretation must be widely available in the public domain. The other major audience that these publications target are practitioners themselves, especially the thousands of mid-level managers-, the district and state programme officers who implement the programme, and within the policy space available to them, innovate and struggle to make a difference. A third audience that this publication addresses is the rapidly growing public health academic community. There is a serious lack of publications of studies on health systems, since most studies on health systems often have the objective of serving as reports for administrators or for funding agencies- and form what is referred to as grey literature. Most such studies are well researched and analysed, but are not considered for publication, nor given to the sort of the orisation required in academic work.

The other problem with evaluation studies is the lack of confidence in the conclusions of any given study, on account of contestations over methodology. It is not our contention that these evaluation studies we list are the last word on assessment of the NRHM. Nor even that they are good examples of the methods of evaluation that need to be followed. But each study is valid, and rigorously done and provides us with insights that taken together allow us to have a much better understanding of the programme as a whole. It is our contention that though everyone has a space to contribute, there can be no final authority or last word- and indeed evaluation studies should not be constructed with such an objective in mind. On the other hand we would also distance ourselves from any relativist understanding where all opinions are equally valid, and anything goes when it comes to methods or conclusions. We would rather contend that there are valid ways of evaluation studies leading to increasing our understanding, the proof of which is best reflected by successful uptake of such understanding into programme management. Failed uptake should not be seen as the administrators problem alone- it should also be seen as the researcher's problem- and many impact evaluation studies fail to have an impact themselves because there are methodological and

design problems..

The methodological problems with evaluating complex health interventions are now well recognised.

One approach to evaluation design builds on the experimental design. Such a study obtains a cross sectional picture of the situation in a geographical area before the intervention and then again some years after the intervention. The changes seen can be compared with another area where such an intervention has not occurred- the control area. Where the base-line is known then the first cross-sectional study is not required. Where a control area is not possible, the change over time from the base-line could be compared against a counterfactual.

Such an evaluation approach is not possible in the NRHM. For one, there are no comparable areas that could act as a control, since the programme is everywhere, and the situation and context of the few places in which it is not operational, are the least comparable. Even if controls could be set up, the critical relevance of context would be lost, and in a programme like NRHM the context of the socio-political environment and that of the existing health systems as well as the historical context could profoundly alter programme mechanisms and outcomes. And contexts vary widely across states.

Faced with these problems, some studies have used data from one cross-sectional study, and compared the data with the targets as defined by the NRHM objectives itself- which is loosely assumed to be the achievement of Indian Public Health Standards in every facility- irrespective of all historical, socio economic and health systems and institutonal contexts, within the same time frame- all over the nation, and also irrespective of the exact amount of financing received, and the facilities or plan priorities that states had made themselves. If one reads the IPHS list of services, then in a sense the comparison made by such an evaluation study design is measuring the distance between the current status and universal health care, and not really an evaluation of the distance traversed from the baseline. A similar problem relates to impact evaluation against health outcomes- where the basis of fixing targets are unknown, and the link between programme mechanisms and health outcomes poorly defined.

This approach of comparison of current status with the ideal norm provides little information on what has changed and even less information on why it has changed. It is also very difficult to attribute changes that have occurred to specific interventions that were introduced. Prof. Gulati's study summarized here has attempted innovations in analysis to address some of these problems. Using a set of statistical techniques he demonstrates the correlation that certain programme mechanisms notably a functional ASHA, functional village level mobilisation in the form of a Village Health Committee

“Failed uptake should not be seen as the administrators problem alone- it should also be seen as the researcher's problem- and many impact evaluation studies fail to have an impact themselves because there are methodological and design problems.”

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“ *In any complex health intervention, attribution of a change or a failure to one or other component parts of the intervention is a problem.* ”

“ *The difference between complicated and complex has to be understood and this is now well described in literature. Complex interventions are more than the sum of their parts, and interventions need to be better theorised to reflect this.* ”

or Village Health and Nutrition Day and the proximity of a functional public health facility has with outcomes, using differentials within the household survey data. The results are interesting – but the sceptic would rightly want to know- why only these three components. To what extent can NRHM be judged by these three- and conversely if these three did not work- could we declare NRHM as failing?

In any complex health intervention, attribution of a change or a failure to one or other component parts of the intervention is a problem. For example if there is in a particular region/state a lack of impact on infant mortality, would we attribute this to the problems of design of the Integrated Management of Newborn and Childhood Illness (IMNCI), or the choice of ASHA or anganwadi worker as the care provider, or a failure of facility based care, or a failure of the Reproductive and Child Health (RCH)- II component of NRHM or of NRHM itself? Such information is important for decision makers- but unfortunately few evaluations offer insights on these aspects.

Many evaluations have tended to approach the NRHM programme as a uniformly designed and implemented, vertical programme, focused on achieving certain targets which everyone is agreed upon, without attention to the differences in contexts, perceptions of key players, variations in resource availability and in institutional structures and relationships at all levels.

But the NRHM is not a simple single intervention programme like a drug trial. It is a complicated programme, in that it is made up of many, many components. But much more problematic, and this is key to understand that it is a complex programme. The difference between complicated and complex has to be understood and this is now well described in literature. Complex interventions are more than the sum of their parts, and interventions need to be better theorised to reflect this⁴.

A complex programme has uncertain relationships between interventions and outcomes, it admits of learning and change, and there are all sorts of synergies and trade-offs between the various components. Complexity is defined as “a scientific theory, which asserts that some systems display behavioral phenomena that are completely inexplicable, by any conventional analysis of the systems’ constituent parts. Reducing a complex system to its component parts amounts to irretrievable loss of what makes it a system⁵.”

To quote “A reality that often has to be faced in impact evaluation,

⁴Penelope Hawe, Alan Shiell, Therese Riley; *Complex interventions: how “out of control” can a randomised controlled trial be?; BMJ VOLUME 328; 2004*

⁵Michelle Campbell, Ray Fitzpatrick, Andrew Haines, Ann Louise Kinmonth, Peter Sandercock, David Spiegelhalter, Peter Tyrer; *Framework for design and evaluation of complex interventions to improve health; BMJ VOLUME 321; 2000*

is that there is a trade off between the scope of a programme and strength of causal inference. It is easier to make strong causal claims for narrowly defined interventions and more difficult to do so for broadly defined programmes. The temptation to break programmes down into sub-parts is therefore strong, however this risks failing to evaluate synergies between programme parts and basing claims of success or failure on incomplete analysis.⁶

The problem of evaluating NRHM, like that of evaluating any complex health programmes is further compounded by multiple and contesting narratives of what constitutes the mechanisms and boundaries of what we would call NRHM. Not only does the “success and failure” of the NRHM programme mean very different things to different stakeholders, the interpretation of every major finding and the acceptability of every major recommendation would hinge upon the position each person has in relation to this discourse. This is not a value-neutral discourse which objective evidence would settle once and for all. What a good evaluation can do, is only help build up areas of common understanding and consensus between highly divergent positions, so that the common and legitimate social goals that all are agreed upon would be easier to reach.

The goal of evaluation studies is therefore to explore the diversity within the NRHM to provide information on how in different contexts, different choices were made in relation to programme mechanisms, to understand why these choices were made and to understand how these differing mechanisms interacted in their specific contexts to yield varying outcomes. Simply then, the goal of NRHM evaluation is– not the simplistic question- Is the NRHM programme a success?- but rather: “What Components of the NRHM programme work, and Where, under What Circumstances and to what Extent does it work. In such an understanding not only is one final all-encompassing evaluation report not necessary- it is a problem. We would rather make do with multiple evaluations that ask different questions and use different methods, and taken together construct an understanding of reality that would inform public opinion and public action.

Complex systems rhetoric should however not become an excuse to mean “anything goes.” The challenge is to devise a methodology that could attempt to look at the complexity and subjective elements objectively. One approach that is gaining popularity is the realist evaluation school⁷ - an approach that promises to find the mid ground between the “positivist” model of the randomised controlled trial and the “relativist” – anything-goes model.

⁶Elliot Stern , Nicoletta Stame, John Mayne, Kim Forss, Rick Davies, Barbara Befani; *Broadening the range of designs and methods for impact evaluations, Working Paper 38; Report of a study commissioned by the Department for International Development; APRIL 2012.*

⁷Pawson, R, & Tilley; *Realistic Evaluation*; London: SAGE Publications Ltd.

“ *The problem of evaluating NRHM, like that of evaluating any complex health programmes is further compounded by multiple and contesting narratives of what constitutes the mechanisms and boundaries of what we would call NRHM. ”*

“ *Simply then, the goal of NRHM evaluation is– not the simplistic question- Is the NRHM programme a success?- but rather: “What Components of the NRHM programme work, and Where, under What Circumstances and to what Extent does it work. In such an understanding not only is one final all-encompassing evaluation report not necessary- it is a problem. ”*

In academic terms, such a dialogue should lead to an approach to evaluation that is based on “a more critical interrogation of intervention logic that may build stronger, more effective interventions. Intervention integrity would be defined as the evidence of fit, with the theory or principles of the hypothesised change process.” There have been some beginnings made in this direction, in some of the evaluation studies listed. But we would require more academic introspection and theoretical understandings before our evaluation studies can fully address these challenges.

To the practitioner and the policy maker and the public the findings of these multiple evaluation reports will we hope, serve as the basis for dialogue with local, state, and national programme managers and decision makers, especially the elected leadership, in order to improve the functioning of NRHM for better health outcomes.

This publication introduces just one important evaluation of the NRHM. We also reproduce the executive summary of another in the appendix. But we invite the readers to familiarise themselves with the entire body of research work that has gone into the understanding and evolution of the NRHM- the most important of which we have listed in this book. The NRHM, or NHM as it is now to be called, must continue to evolve, and it should do so on the basis of such studies and dialogue.

T. Sundararaman
E.D., NHSRC

Preface

The National Rural Health Mission (NRHM) was launched by the Hon'ble Prime Minister on 12th April 2005. The Mission primarily aimed provisioning of accessible, affordable and quality health care to rural populations, especially vulnerable and underserved population groups in the Country with the primary objective of faster reduction in infant mortality rate, maternal mortality ratio and total fertility rate to accelerate the population stabilization process by 2045 at a level consistent with the requirements of sustainable economic growth, social development and environmental protection.

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 the architectural corrections 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.

Given the wide scope of the Mission and multiplicity of activities the Planning Commission entrusted an appraisal study of NRHM with the primary 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. The study also brought other dimensions 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. under the purview of the present study.

The study evaluated the performance of NRHM in 37 districts stretched over the seven states of India viz. Uttar Pradesh, Madhya Pradesh, Jharkhand, Orissa, Assam, Jammu and Kashmir and Tamil Nadu. The sampling design for each district envisaged 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. Thus, the facility survey in the study had covered 37 DHs, 74 CHCs, 148 PHCs, 296 SCs, and 296 villages stretched over 37 districts over the 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 had 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.

The multivariate analysis in the study also highlights 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. The intensity of impact of different background variables has been elicited by estimating the probabilities using the parametric estimates in the multivariate analysis.

We are intellectually indebted and wish to place on record our special gratitude to the Planning Commission for entrusting such an important policy relevant study and providing comments and suggestions during the final seminar organized on 28th December 2010, under the chairmanship of Dr. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission at Yojana Bhavan facilitating further improvisation of the study. It would be of interest to note that some of the extended suggestions/recommendations in the study have already drawn the attention of the policy formulators and implementers and have been translated into policy interventions over the recent past.

S. C. Gulati

About the Study

The Planning Commission of India specially commissioned the following study to evaluate the performance of NRHM. This study was commissioned to the Institute of Economic Growth, with the mandate to define their own methodology, take approval for the same and then complete the study within a year. A team led by Prof SC Gulati, who were also managing the Population Research center of the IEG and already familiar with the health sector, were entrusted with carrying out this study. The Study was commissioned in the fifth year of the NRHM-in 2010, and expected to feed into the further work of the expert groups and other processes that go into the making of the 12th Plan process. Data collection was done in 7 states of India in 2010, and the preliminary report was presented to the Planning Commission in a meeting chaired by the Honourable Dy. Chairperson, Shri Montek Ahluwalia, with all key stakeholders present. The study report was then finalised and is now available on the Planning Commission web-page with a dateline of February 2011. (Soft copies are also available currently with the National Health Systems Resource Center).

Given the large number of components and the multiplicity of contexts, and the need to have high quality data collectors, the entire evaluation was generously supported with funds sourced directly from the Planning Commission,. This also ensured that this was an unbiased external evaluation of one of India's leading flagship programmes.

STUDY OBJECTIVES

- (1) To evaluate and assess the availability, adequacy and utilization of health services in the rural areas.
- (2) To assess the role played by ASHAs and AYUSH in creating awareness of health, nutrition among the rural population.
- (3) To identify the constraints and catalysts in the implementation of the NRHM programmes.
- (4) To assess the utilization of health services.
- (5) To study the specific service components such as the 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 and effective utilization of funds.
- (6) To study the programs impacting nutrition, capacity building, communitization and empowerment affecting the utilization of health services.

STUDY METHODS

- (1) Seven states were selected for the study. The selection was purposive and made in consultation with the Planning Commission to represent a range of objective contexts.
- (2) In-depth interviews were carried out with the key informants- the officials at all levels in the public health care system as well as at the community level on various aspects of health systems, program management as well as financial systems..
- (3) Facility Survey, using a structured schedule, was conducted in a sample of public health facilities of each "level" viz. DHs, CHCs, PHCs, and SCs
- (4) Sample survey of households in each of the states, who were users of different components of health services using Structured schedules to collect data from eligible respondents utilizing different

components of health services under NRHM from each of the selected 7400 households.

- (5) Hard copies of the District Health Plans was verified and collected wherever were made available
- (6) Updated data from the NRHM documents submitted by the state officials.
- (7) Primary data collected for functioning of facilities and utilization of public or private health facilities.

STUDY ANALYTICAL METHODS:

Multinomial logit regression technique was used 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.

STUDY DESIGN

Sampling Design : Seven states of India viz. Uttar Pradesh, Madhya Pradesh, Jharkhand Odisha, Assam, Jammu and Kashmir and Tamil Nadu.

The next level selection of 37 districts stretched over the seven states with 6 districts each in Uttar Pradesh (UP) and Madhya Pradesh (MP), 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 for each district

Sample and population studied: The facilities' study covered 37 DHs, 74 CHCs, 148 PHCs, 296 SCs, and 296 villages across 37 districts of 7 states of India as well as selection of 25 households for the household survey in each selected village totalling 7400 households from 296 villages.

KEY RESULTS

STATUS OF HEALTH INFRASTRUCTURE AND FACILITY UPGRADATION UNDER NRHM

- Facility upgradation: In all the states facility upgradation work was taken up on priority basis with significant improvement documented in Uttar Pradesh, Madhya Pradesh, Jharkhand, Orissa and Jammu Kashmir. Upgradation of PHCs into 24x7 facilities seems to have improved greatly in almost all seven states since the start of NRHM. Registered Rोगी Kalyan Samities functioning in almost all DHs, CHCs and PHCs in all seven states. Village Health and Sanitation Committees (VHSCs) have been constituted and functioning in most of the villages sampled .
- 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.
- Human resource: The contractual appointments of specialists in CHCs have strengthened the manpower in all the states.
- ANM: positioning in SCs in all the states is satisfactory. With almost 94 percent of the SCs with an ANM in position
- ASHAs: 7.7 lakhs ASHAs recruited, trained and in position.

UTILIZATION OF PUBLIC HEALTH SERVICES

- ANC: 78 percent of the pregnant women had utilized any of the antenatal care services. Majority of the antenatal checkups were at Sub-centres or Primary Health Centres. ANC care amongst pregnant women was satisfactory for blood pressure, weight and urine check ups. 93 % of pregnant women were

vaccinated with Anti-Tetanus vaccine Counselling by ASHA/ANM on other important components linked with pregnancy like diet, exercise and precautions during pregnancy were satisfactory in all the seven states.

- PNC: 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.
- Immunization: 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. Out of total vaccinated, 83% mothers had immunization cards for the children.
- Family planning: 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%).
- Chronic diseases: 74 percent of these respondents sought treatment from public health institutions.
- Institutional deliveries: All the seven states depict quantum jump from 2005-06 to 2008-09.
- Children immunization scheme working fine with majority of the new born children immunized in all the states of India..
- AYUSH program got picked up after 2007-08 with higher budgetary allocation.
- The National Disease Control Programme (NDCP): Working satisfactorily both the incidence as well as deaths reported under different diseases depict declining trend.

FUNCTIONING OF DISTRICT HEALTH SOCIETIES

Majority of the District Health Societies reported having discussed PHC health committee reports, including monitoring of infrastructure, and participation in development of District Health Plans.

FUNCTIONING OF DISTRICT HEALTH MISSIONS

Flow of NRHM funds: Done electronically in all the 37 districts and most Societies participating in preparation of District Health Plans including financial outlays and physical targets. JSY scheme was functional in 25 out of 37 districts. Vertical Integration of all the Health Societies created under different programmes in the districts into District Health Society was reported in all the districts in UP, MP, Jharkhand and Tamil Nadu.

FUNCTIONING OF DISTRICT HOSPITALS

Blood Bank/ blood storage facility Proper drainage and sanitation system, Pharmacy, Doctor's Duty Room, other infrastructural facilities like telephone, fax machines, computers are available in and functioning in almost all the DHs.

FUNCTIONING OF COMMUNITY HEALTH CENTRES

Almost all the CHCs in all the seven states were providing 24 hours delivery services including normal and complicated deliveries with functional laboratories and labor rooms. Rogi Kalyan Samities are functioning in most of the CHCs and even AYUSH facilitators/doctors are also found to be in place in majority of the CHCs.

FUNCTIONING OF PRIMARY HEALTH CENTERS

- 92% of the PHCs were functioning in own buildings. Almost 70% of the PHCs have been upgraded. Most of the PHCs had availability of potable/drinking water within PHC premises with satisfactory level cleanliness and availability of toilet facility was reported in almost all the PHCs. 90% of the PHCs had registration counter, OPD room and Pharmacy.

- 84% of the PHCs had allopathic doctors/ MOs 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.

FUNCTIONING OF SUB CENTERS

Availability of ANMs was reported in 94% of the SCs with the recruitment and positioning of ASHAs in 77% of the SCs. ANC (78%), PNC (84%) and Child Care including immunization (91%) Family Planning services were reported to be quite satisfactory.

FUNCTIONING OF VILLAGE HEALTH & SANITATION COMMITTEE

Most of the contacted VHSC members reported satisfaction about the health services provided by the SCs with 57% of the VHSC members participating in making Village Health Plans. Majority VHSCs were providing safe drinking water.

FUNCTIONING OF ACCREDITED SOCIAL HEALTH ACTIVISTS (ASHA)

- Most of the ASHAs are staying in the serving villages and Further, 72% of the ASHAs have reported to be paid compensation for the services rendered by them
- 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%.
- 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. The sources of knowledge about these initiatives are predominantly ASHA/ANM and not print or electronic media.
- ASHA's role is extremely important in terms of motivating pregnant women for utilization of the ANC care from public sector health facilities. The tendency to utilize private health care institutions for ANC also declines in rural areas where ASHAs are functioning satisfactorily.
- Role of ASHA is crucial in promoting institutional deliveries.
- 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.
- ASHA's home visits and counselling with women improved utilization of public health facilities for children's immunization.
- 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.
- ASHA's visits, counselling and distribution of free medicines encourages women for more and more utilization of public as well as private health facilities. ASHA's regular visits to households, after accounting for other predictor variables, improve the probability of utilization of public health facilities from 0.54 to 0.71.
- Coming to program factors we find 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.
- Overall functioning of ASHAs seems to be satisfactory in all the states.

VHND:

- Holding health and a nutrition day in rural areas significantly improve the 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
- Role of VHNDs and VHSCs meetings also is important in motivating people for increased utilization of public health facilities for children's immunization, family planning services, and chronic disease control services.

Secular decline in infant mortality rate was observed in all the seven states under the purview of the study. Secular declines in MMR have also been observed in all the seven states excepting J&K

Evaluation Study of National Rural Health Mission (NRHM) A Summary of the Findings

(Full report available on Planning Commission and NHSRC websites
www.planningcommission.nic.in and www.nhsrcindia.org)

Background

The National Rural Health Mission (NRHM) was launched in 2005 as a part of the Common Minimum Programme of the Government of India with the following goal “to promote equity, efficiency, quality and accountability of public health services through community driven approaches, decentralization and improving local governance”.¹ The vision was provision of effective healthcare to rural population throughout the country, to begin with special focus on 18 states² where the challenge of strengthening the weak public health system and improving key health indicators is the greatest. Taking an ‘omnibus approach’ by integrating existing vertical health programmes³, the NRHM seeks to provide effective health care to the rural population, especially the disadvantaged groups including women and children, by improving access, enabling community ownership and demand for services, strengthening public health systems for efficient service delivery, enhancing equity and accountability and promoting decentralization.

The 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 an Infant Mortality Rate (IMR) of 30 per 1000 live births, Maternal Mortality Rate of 100 per 100,000 live births and a 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 health planning and management, appointment of community health volunteers called ASHAs 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), and mainstreaming of AYUSH to facilitate comprehensive and integrated health care to rural population, especially underserved groups in India.

¹Frame work of Implementation: Meeting people’s health needs in rural areas, National Rural Health Mission (2005- 2012), Ministry of Health and Family Welfare, Government of India, 2005

²These include: Uttar Pradesh, Uttaranchal, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Orissa, Rajasthan, Himachal Pradesh, Jammu & Kashmir, Assam, Arunachal Pradesh, Manipur, Nagaland, Meghalaya, Mizoram, Sikkim and Tripura.

³The vertical health programmes converged under the NRHM include the Reproductive and Child Health II project (RCH II), the National Disease Control Programmes (NDCP) and the Integrated Disease Surveillance Project (IDSP).

Study Objectives

Given the wide scope of the Mission, and the fact that it was past the midway point of implementation, the Programme Evaluation Organization of the Planning Commission of India, commissioned a performance evaluation of the National Rural Health Mission in 2010. This task was assigned to the Institute of Economic Growth (IEG), and was conducted by the Population Research Centre housed in the IEG.

The main objectives were to:

- Evaluate and assess the availability, adequacy and utilization of health services in rural areas,
- Study planning and preparedness of the facilities to deliver services in terms of human resources for health, availability of drugs, quality of MCH care and diagnostic-services, referral services, process of accreditation, effective decentralization, and effective utilization of funds.
- Study the role played by ASHAs in creating awareness of health, nutrition among the rural population.
- Study the perception of communities/stakeholders about the quality of healthcare, whether private or public.
- Assess the role and inter-linkages of health services with programs impacting nutrition, capacity building, and communitization.
- Identify the constraints and catalysts in the implementation of the NRHM programmes.

Methodology

The study used a mixed methodology approach, with quantitative and qualitative data being collected considered most appropriate for complex interventions implemented at scale. Facility and household surveys, structured questionnaires with health personnel at different levels, detailed secondary data review including programme documents and analysis of existing secondary data, and indepth interviews with key stakeholders were used. The analysis also involved triangulation of data at different levels to provide a comprehensive understanding and multiple stakeholder perspectives.

The study involved purposive sampling of states, districts, health facilities across the public health system, and households. Exhibit 1 presents the sampling design.

The facility survey covered 37 District Hospitals (DHs), 74 Community Health Centers (CHCs), 148 Primary Health Centres (PHCs), 296 Sub Centers (SCs), and 296 villages spread across over 37 districts in seven states.

The main aim of the facility surveys was to evaluate the functioning of all health facilities across the chain – DH, CHCs, PHCs and SCs. Structured questionnaires were used for data collection from key informants for each level of the health facility. Structured questionnaires were used to collect information from Gram Panchayat representatives and AYUSH doctors. In-depth interviews were conducted with State Health Society (SHS) officials, District Health Society (DHS) officials, the Chief Medical Officer and the hospital Superintendent. Focus Group Discussions (FGDs) and in-depth interviews were conducted with ASHAs and Auxiliary Nurse Midwife (ANMs).

EXHIBIT 1: SAMPLING DESIGN

The following 7 states were selected



Assam

Jammu & Kashmir

Jharkhand

Madhya Pradesh

Orissa

Tamil Nadu

Uttar Pradesh

The following 37 districts were selected from the 7 states



Barpeta, Sonitpur, Darrang, Cachar, Dibrugarh

Jammu, Udhampur, Doda, Baramula, Badgam

Ranchi, Dhanbad, Giridih, Paschim Singhum, Chatra

Katni, Nimach, Vidisha, Shivpuri, Hoshangabad, Dhar

Rayagarh, Bolangir, Kendujhar, Kendrapara, Puri

Kanchipuram, Salem, Madurai, Tuticorin, Nagapattinam

Mathura, Saranpur, Mohoba, Sultanpur, Mau, Unnao

Following health facilities were selected from each of the 37 districts



District Hospital

CHC

CHC

PHC

PHC

PHC

PHC

SC

SC

SC

SC

SC

SC

SC

SC

1 village from each sub centre catchment
1 ASHA, 1 Gram Panchayat, 1 AYUSH facility
and 200 households from each village

8 villages in each district
Total – 296 villages

5 HH with pregnant women

5 HH with lactating women

5 HH with 1-5 year olds

5 HH with chronic disease patient

5 HH which have accessed FP services

200 households in each village
Total – 7400 households

“The household survey was undertaken in 7400 households from 296 villages across 37 districts in the seven selected states. 25 households were selected from each of eight villages under the eight selected SCs.”

“The objective criterion of selection of these 25 households was the selection of at least five households with respondents in each of the following five categories viz. five pregnant women, five lactating women with newborns and children less than one year, five women with children between 1-5 years, five respondents suffering from chronic diseases, and five women using contraception.”

The household survey was undertaken in 7400 households from 296 villages across 37 districts in the seven selected states. 25 households were selected from each of eight villages under the eight selected SCs. The objective criterion of selection of these 25 households was the selection of at least five households with respondents in each of the following five categories viz. five pregnant women, five lactating women with newborns and children 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 which were linked to selected PHCs, CHCs and DHs as described earlier.

The main aim of the household survey was to elicit information on utilization of services related to different components of RCH, Family Planning, and services for chronic diseases and selected aspects of socioeconomic and demographic characteristics. Additionally information was elicited on the benefits of the Janani Suraksha Yojana (JSY) and sources of health services in the surveyed villages. Information was also collected about awareness regarding NRHM, the role played by ASHA, the utilisation and experience with JSY, and the existence and functioning of VHSC and also about the community's perception about the changes in health services. Additionally, details about consumption of food items in the households, inventories and conveniences like toilet, water, was also elicited from the households. In Tamil Nadu, which did not have an ASHA programme in the sampled villages, the ASHA questionnaire was administered to the Village Health Nurse.

Descriptive analysis was used to assess the presence and functioning of health facilities, community level institutions and human resources, and to study utilization patterns for different health services under NRHM. Inferential analysis with the multinomial logit regression technique was used to assess the net effects of predictor variables comprising of socioeconomic, demographic and program variables on utilization of public or private health care facilities for maternal-child health, family planning and chronic disease care services. By comparing data on non users of these services, with private sector users and public sector users allowed researchers to comment on key questions such as the significance of correlation between key programme parameters and increased utilization of public health services, or a change in the pattern of service utilization.

The programme parameters studied were the frequency and quality of the ASHA visits, the conduct of Village Health and Nutrition Days (VHND), the functioning of Village Health Sanitation and Nutrition Committees (VHSNCs), and access to a PHC and FRU. The study design ensured that these effects were really due to these programme parameters and were not secondary to other socio economic background variables.

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 the 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 Odds-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. 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:

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

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

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

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

The effects of the predictor variables on the response variable were presented in the form of estimated probabilities based on parametric estimates.

Binary Logit Regression Co-efficients were also computed- to assess the factors contributing to full immunization as compared to partial immunization, and health seeking behavior for chronic care with regards to the choice between public and private sector care.

Besides these regression analyses, to highlight the relative performance of the 7 states, the study developed a composite index reflecting performance in terms of availability and utilization of facilities in

“Besides these regression analyses, to highlight the relative performance of the 7 states, the study developed a composite index reflecting performance in terms of availability and utilization of facilities in different states.”

different states. The methodology adopted for the composite indexing is similar to the 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.

Results

A demographic profiling of the seven states (developed through the analysis of secondary data and through document analysis) reveals that a secular decline in neonatal mortality during last five years was seen only in Tamil Nadu. However, decline in infant mortality rate was observed in all the seven states. Further, we find that the Maternal Mortality Ratio ranges from 111 in Tamil Nadu to 440 in Uttar Pradesh. 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.

Status of Health Facilities under NRHM: Infrastructure

The NRHM has recognized that strong public health systems are imperative for achieving improved health outcomes, and has allocated additional funds for strengthening the public health service delivery infrastructure, particularly the sub centres, the PHCs and the CHCs for the provision of primary and first contact curative care. This is accompanied by improved management capacity to organize health systems and services in public health by emphasizing evidence based planning and implementation. In order to provide accessible, affordable and accountable health care system to all, especially underprivileged and vulnerable sections of the society, the NRHM emphasizes improvements in health care infrastructure in demographically weak states and districts. Upgradation of health facilities is expected to meet Indian Public Health Standards (IPHS). The evaluation assessed the status of physical infrastructure in District Hospitals (DH), Community Health Centres (CHCs), Primary Health Centres (PHCs) and Sub Centres (SCs) across the selected states, with respect to IPHS norms.

Facility survey for upgradation to Indian Public Health Standards (IPHS) recommended under NRHM has been initiated (as of August 2009) in all seven states, although not in all the district hospitals of these states.

District Hospitals: While Tamil Nadu, Jammu and Kashmir, Orissa and Madhya Pradesh had upgraded all district hospitals. Upgradation work

“The evaluation assessed the status of physical infrastructure in District Hospitals (DH), Community Health Centres (CHCs), Primary Health Centres (PHCs) and Sub Centres (SCs) across the selected states, with respect to IPHS norms.”

was completed in 70 percent of hospitals (50/71) in Uttar Pradesh, 42 percent of hospitals (10/24) in Jharkhand, and 41 percent of hospitals in Assam (9/22). While basic infrastructure was in place for all 37 district hospitals, intensive care units were not available in 19 DHs, blood bank/storage facilities were unavailable in two DHs and drainage and sanitation system was functioning in 29 of the 37 DHs.

Community Health Centers (CHC): 74 CHCs were covered in the study. Building construction was incomplete in all states. Assam was the forerunner with 8/10 CHCs having completed construction, in all the rest less than 60% CHCs had completed construction. In UP, TN, Assam, and J&K lab facilities were available in most or all CHCs, while in the rest the situation needed improvement. It was interesting to note that in TN, while all ten CHCs had ultrasound equipment, only three had X-ray machines.

Primary Health Centers (PHC): In the current study, 24 PHCs from each state were surveyed in the sampled districts (2 PHCs under each of selected CHCs in the district). The study found significant gaps in physical infrastructure at the PHC level, as per the IPHS norms. While most PHCs operated from their own buildings (versus rented or temporary locations), construction of these buildings was not complete at the time of data collection. Moreover, basic infrastructure facilities required for service provision, such as 24-hour electricity supply, drinking water, communication facility, separate labor rooms, emergency rooms and operation theatres were not seen in most of the PHCs surveyed.

Sub Centers: In the Indian health scenario, Sub-Centre (SC) is a bridge between rural community and public primary health care system. Despite this crucial positioning, the study found significant gaps in physical infrastructure for SCs, impeding quality service provision.

State Specific findings for Physical Infrastructure:

In Uttar Pradesh CHCs, bed occupancy rates are about 40% or less in the last one year. X-Ray and ECG machines were not functional in most CHCs. Overall the availability of emergency health services, specialists, diagnostic facilities were better in Saharanpur, Mathura and Unnao. In PHCs, X-Ray and ECG machines were often not functional and bed occupancy was low at around 40 percent. These include both those at the block headquarters and others at the sector level. 92 percent of the surveyed PHCs reported to be functioning out of their own buildings and in 71 percent of the PHCs construction was completed or renovated under NRHM. In 58 percent PHCs drinking water and storage facility was available. Pharmacies were present in 96 percent of the PHCs and 88 percent had PHCs adequate medicines. OPD rooms were in 88 percent of the PHCs, family welfare clinics in

“*The evaluation assessed the status of physical infrastructure in District Hospitals (DH), Community Health Centres (CHCs), Primary Health Centres (PHCs) and Sub Centres (SCs) across the selected states, with respect to IPHS norms.*”

63 percent, and functioning operation theatres in 50 percent of the PHCs. Emergency/casualty rooms were present in only 25 percent PHCs and separate labor rooms in 46 percent. Only 54 percent PHCs had 24 hour electricity supply, and communication facilities were available only in 21 percent of the facilities. Of the total of 48 SCs surveyed, 44 percent were running out of government buildings. In 67 percent SCs drinking water was available and in about half- 48 percent, there were toilet facilities. Only 23 percent SCs had regular electricity supply and in 27 percent SCs communication facility was available. Residential facilities for staff were also low at 42 percent.

In Madhya Pradesh none of the 12 CHCs had functional ECGs or X-Ray machines. Physical infrastructure in terms of good buildings with clean floors, pharmacies, functional labor rooms, is reported in most CHCs. 92 percent PHCs were functioning in own buildings and in 75 percent construction was complete. In 67 percent of PHCs drinking water and storage facilities were available. 87 percent PHCs had a functioning pharmacy. OPD rooms were functional in 92 percent, family welfare clinics in 67 percent, operation theatres and casualty rooms in 42 percent of the PHCs. In 87 percent PHCs electricity was available but it was not regular 24-hours supply. Communication facilities were available only in 46 percent facilities. Referral transportation was particularly poor at only 17 percent availability. Out of the total surveyed SCs 85 percent had buildings but only 58 percent were running in government buildings. In 52 percent SCs drinking water was available and 71 percent had toilet facilities. Electricity supply and communication facilities were poor at 37 percent and 27 percent respectively. 52 percent SCs had residential facility for the staff. None of the PHCs in Madhya Pradesh sample, reported availability of functioning ECG and X-Ray machines.

In Jharkhand most of the CHCs in Dhanbad, West-Singhbhum and Chatra did not have X-Ray, ultrasound, and ECG facilities. Functional pharmacies were reported in nine of the 10 CHCs sampled, that is, in all excepting Nirsa in Dhanbad. Of the 20 PHCs surveyed, 90 percent were functioning in own buildings and in 55 percent cases construction was completed. In 65 percent PHCs drinking water was available. The presence of pharmacies was at 85 percent and OPD rooms were in 95 percent. However, operation theatres and casualty rooms were available in only 30 percent PHCs and separate labor rooms in 50 percent cases. 50 percent PHCs had communication facilities and electricity supply, although not regular. Regarding facilities for transport, only 25 percent of PHCs reported an effective linkage. The total number of SCs surveyed in Jharkhand was 39, as one SC was under construction. Out of these, 92 percent had buildings but only 46 percent were running out of government buildings. In 41 percent of SCs drinking water was available and only 31 percent had toilets. Regular electricity supply was available only in 23 percent SCs, and

residential facilities were available in 15 percent of SCs.

In Odisha, laboratory/Diagnostic facilities are not found in any of the ten CHCs. None of them had a functional ECG, X-Ray and Ultrasound machines except Hari Chandan Pur in Kendujhar with a functional X-Ray machine. Of the 20 PHCs surveyed in five districts, 85 percent were functioning in own buildings and in 80 percent PHCs construction was completed. In 60 percent PHCs drinking water was available. 95 percent PHCs had a pharmacy but only 50 percent had adequate medicines. OPD rooms were reported in 95 percent of PHCs, but operation theatres and casualty were available in only 10 percent to 15 percent PHCs, and separate labor rooms in only 20 percent PHCs. In 70 percent facilities, electricity was available but intermittently. Communication facility was available only in 20 percent facilities. Referral transport facilities were relatively better, with all PHCs reporting available transport. Of the SCs surveyed 100 percent had buildings but only 54 percent functioned out of government buildings. In only 23 percent of SCs was drinking water available and only 23 percent had toilet facilities. In only 31 percent SCs regular electricity and in only 15 percent SCs communication facility was available. In 36 percent SCs residential facility was available in the SCs premises for the staff.

In Assam of the 10 CHCs sampled, physical infrastructure was in place in all. However, as regards equipment, only one CHC - Dhekijuli in Sonitpur reported functioning X-Ray machine and only one CHC - Naharani in Dibrugarh reported functioning ultrasound machine. ECG machines were not available/ functioning in any of the ten CHCs. 100 percent PHCs were functioning out of their own buildings and in 85 percent PHCs construction was completed. In 80 percent PHCs drinking water was available. Pharmacies were present in all the PHCs but only 60 percent had adequate medicines. OPD rooms were there in 90 percent of the facilities, but there were shortages in operation theatres and casualty rooms, at 5 percent and 20 percent respectively. In 75 percent facilities communication facilities and electricity was available but intermittently, and referral transportation was available for 55 percent PHCs. Out of the total surveyed SCs 85.5 percent have buildings but only 45 percent were running in own government buildings. In only 57.5 percent SCs was drinking water available and only 55 percent had toilets. Electricity supply was available to 42.5 percent SCs and communication facilities were extremely poor, with only 7.5 percent SCs having available telephones/ mobile phones. In 30 percent SCs residential facilities was available in the premises for the staff.

In Jammu and Kashmir diagnostic facilities like ECG, X-Ray and Ultrasound machines are functional in all the 10 CHCs. 85 percent

PHCs were functioning in own buildings but in only 25 percent PHCs construction was completed. In 70 percent PHCs drinking water was available. 90 percent PHCs had pharmacies but only 50 percent had adequate medicines. OPD rooms were in there 90 percent cases, but only 15 percent had operation theatres and casualty rooms. Only 10 percent PHCs had communication facility like mobile phone or telephone. Ambulances were not universal- and its availability was reported with only 55 percent of PHCs. 100 percent SCs had buildings but only 30 percent were running in own government buildings. In only 50 percent SCs drinking water as well as toilet facility was available. 45 percent SCs had regular electricity and in only 7.5 percent SCs communication facility was available. In 7.5 percent SCs residential facility was available in the premises for the staff.

In Tamil Nadu, diagnostic services like Ultrasound machines are available in almost all CHCs except one CHC in Kanchipuram. 100 percent of PHCs were functioning in their own buildings and in 90 percent cases construction was completed as per IPHS standards. All PHCs had drinking water, pharmacies, OPD rooms, communication facilities and electricity supply (although not 24 hours). Operation theatres and casualty rooms were available in only 5 percent to 30 percent PHCs. Similarly, referral transport facility was available in only 50 percent cases. Out of the total 40 surveyed SCs, 95 percent have buildings but only 67 percent was running in own government buildings. In 70 percent SCs drinking water was available and 82.5 percent were with toilet facilities. In only 82 percent SCs regular electricity and in only 77 percent SCs communication facility was available. In 55 percent SCs residential facility was available in the SCs premises for the staff.

The following table presents the status of infrastructure in health facilities in the seven states.

Table 1: Status of physical infrastructure in health facilities

States	UP	MP	Jharkhand	Orissa	Assam	J&K	Tamil Nadu	India	Percentage
Facility	District Hospital								
Total number surveyed	6	6	5	5	5	5	5	37	
Infrastructure components									
Environmental clearance obtained from PCB	4	6	4	4	3	2	4	27	73
Hospital building is disabled friendly	3	4	2	5	4	4	5	27	73
Blood bank/storage	6	6	4	5	4	5	5	35	95
Pharmacy	6	6	4	5	5	5	5	36	97
ICU	3	4	3	1	1	1	4	17	46
24 hour water supply	6	6	5	5	5	5	5	37	100
Drainage and sanitation	6	4	4	2	5	4	4	29	78
Facility	CHC								
Total number surveyed	12	12	10	10	10	10	10	74	
Infrastructure components									
Completed building construction	5	3	5	3	8	6	6	36	49
Pharmacy	10	10	9	9	9	9	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
Operation theatre	12	7	5	7	5	7	9	52	70
ECG machines	0	2	2	0	0	10	10	24	32
X ray machines	10	10	2	1	1	10	3	37	50
Ultrasound machines	0	0	1	0	1	10	9	21	28
Facility	PHC								
Total number surveyed	24	24	20	20	20	20	20	148	
Infrastructure components									
Government building	22	22	18	17	20	17	20	136	91.9
Completed building construction	17	18	11	16	17	5	18	102	68.9
Availability of drinking water	14	16	13	12	16	14	20	105	70.9
24 hour electricity	13	21	10	14	19	20	20	117	79.1
Pharmacy	23	21	17	19	20	18	20	138	93.2
Labour room	11	17	10	4	9	11	20	80	55.4
Operation theatre	12	10	6	3	1	3	1	36	24.3
Emergency room	6	10	8	2	4	6	6	42	28.4
Facility	Sub-Centre (SC)								
Total number surveyed	48	48	39	39	40	40	40	294	
Infrastructure components									
Own building	41	41	36	39	33	40	38	268	91.2
Government building	21	28	18	15	18	12	25	139	47.3
Availability of drinking water	32	25	16	21	23	20	28	165	56.1
24 hour electricity	11	18	9	12	17	18	33	118	40.1
Labour room	17	20	3	9	9	5	27	90	30.6
Residential facility for staff	20	26	6	14	12	3	22	103	35.0
Communication facilities	13	13	39	6	3	3	31	108	36.7

Interpretation of the findings:

It is true that all facilities have not reached IPHS in physical infrastructure. It is also clear that Tamilnadu can be used as a benchmark, on what can be achieved even in the best of administrative circumstances, keeping in mind that Tamilnadu had a much better baseline to start with. One must be also alert to problems due to nomenclature. In Tamil Nadu a PHC serves a sector of 30,000 population and the block headquarters PHC is upgraded into a CHC. In Bihar on the other hand the PHC at the block headquarters is the only facility referred to as a "PHC". The equivalent of what is called a PHC in Tamil Nadu would be called an "additional PHC" in Bihar or Jharkhand or a "Mini PHC" in Orissa. Further what are called "CHC" in Bihar and UP are really selected

This Findings have been interpreted so as to enable readers to view the study results in context.

“Given the limited resources available and the equivalent institutional capacity to absorb, no high focus state ever had a plan of achieving universal IPHS. The question we need to study further is whether the facilities which were shortlisted for upgradation were rationally chosen, and whether these were successfully upgraded or not.”

“The evaluation found significant shortfalls in human resources at all levels of health facilities, especially in specialist positions in the CHC, nurses in the PHC and the male worker in the sub-center. However medical officers are in place in CHCs and in many states, even at PHC levels.”

rural hospitals identified as providing specialist care, and these often co-exist with the block PHC. This clarity in nomenclature and designation of facilities is important to understand. That is why PHCs in Tamil Nadu almost never have an X-Ray machine, because they were not intended to have it. In contrast a PHC in UP is expected to have such a machine.

The second issue is that given the limited resources available and the equivalent institutional capacity to absorb, no high focus state ever had a plan of achieving universal IPHS. The question we need to study further is whether the facilities which were shortlisted for upgradation were rationally chosen, and whether these were successfully upgraded or not.

Keeping all these cautions in mind when we review the data- one can see the infrastructure development programme has not progressed too far from the baseline in Jharkhand, but considerable progress has been made in other states.

Status of Health Facilities under NRHM: Human Resources

Human resources for health is an area that India faces challenges in terms of numbers and capacity. The NRHM recommends positions of medical and paramedical staff at each level of health facility, based on the requirement for delivering the mandated services. The Indian Public Health Standards (IPHS) provides a detailed list of these mandated health personnel. The evaluation assessed the status of human resources in District Hospitals (DH), Community Health Centres (CHCs), Primary Health Centres (PHCs) and Sub-Centres (SCs), and the ASHA Program across the selected states.

The evaluation found significant shortfalls in human resources at all levels of health facilities, especially in specialist positions in the CHC, nurses in the PHC and the male worker in the sub-center. However medical officers are in place in CHCs and in many states, even at PHC levels.

In UP, General Surgeons, Obstetrician/Gynecologists, and Pediatricians were not in position in most CHCs. At the PHC level, there was a shortfall of 25 percent in case of medical officers, and around 38 percent in case of nurses. At the SC level, ANMs were present in 95 percent of the cases, although there were high shortfalls in Male Health Workers.

In MP, there were no Physicians, Pediatrician, Anesthetist, or Eye-surgeon in any of the 12 CHCs, and General Surgeon was reported to be available only in 2 CHCs of Katni district, in 8 CHCs across Neemach, Vidisha, Hoshangabad and Dhar. However, availability of paramedical staff like nurses, laboratory technicians, and ward boys were reported to be in position in most of the CHCs. At the PHC level, although medical officers were present in 91 percent of the cases, the shortfalls were much higher for nurses (45 percent), pharmacists (66 percent), and laboratory technicians (71 percent). All sub centres had ANMs and male health workers.

In Jharkhand, regular positions of General Surgeon, Gynecologist, and Pediatrician were vacant in most CHCs. At the PHC level, there were no AYUSH doctors in any of the surveyed facilities, and 42 percent did not have medical officers. While all the SCs had ANMs, only 28 percent had male health workers.

In Orissa availability of specialists/doctors like general surgeon, obstetrician, and pediatrician in regular positions were in-place only in Puri and Kendrapara. Only 1 percent PHCs had the required number of ANMs and laboratory technicians. While all sub centres had ANMs in position, only 60 percent had male health workers.

In Assam, only CHCs in Darrang and Sonitpur districts had general surgeon and physician. There was almost a complete absence of specialists in the rest of the CHCs. At the PHC level, the situation was relatively better, with medical officers, ANMs and pharmacists in place in almost 90 percent of the cases. At the sub centre level, there was a 20 percent shortfall in ANMs and a high 80 percent shortfall in male health workers.

In Jammu and Kashmir, availability of key specialists/doctors like obstetrician/gynecologist was not in 4 out of the 10 CHCs - Akhnoor in Jammu, Bhaderwah and Gandoh in Doda and Beerwah in Budgaon. At the PHC level, medical officers were present in 80 percent of the cases, but there was a significant shortfall of 60 percent in case of ANMs. In Sub centres, there was a 25 percent shortfall in ANMs and a 42 percent shortfall in male health workers.

In Tamil Nadu, doctors/specialists in position was found to be poor - obstetrician/gynecologists, pediatricians, and general surgeons were not available in any of the 10 CHCs. General Physician was available only in one CHC in Tuticorin. While medical officers, ANMs and pharmacists were present in majority of the PHCs, there was a 60 percent shortfall in laboratory technicians, and only one PHC had an AYUSH doctor. All sub centres had ANMs, but there was a shortfall of 60 percent in male health worker positions.

The following table presents the situation of human resources at each level of health facility across the seven states.

Table 2: Status of human resources in health facilities

States	UP	MP	Jharkhand	Orissa	Assam	J&K	Tamil Nadu	India	Percentage
Facility	Community Health Centre (CHC)								
Total number surveyed	12	12	10	10	10	10	10	74	
Human resource positions									
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
Pediatrician	3	2	0	5	0	5	0	15	20
Anesthetist	3	2	2	0	1	0	0	8	11
Eye Surgeon	2	2	0	0	0	0	0	4	5
AYUSH doctor	1	1	1	8	4	1	7	23	31
Medical Officer (Allopathic)	10	7	7	4	7	9	8	52	70
Public Health Nurse	1	1	8	1	8	8	9	36	49
Lab Technician	11	12	7	8	9	10	10	67	91
Radiographer	7	8	3	2	3	5	4	32	43
Facility	Primary Health Centre (PHC)								
Total number surveyed	24	24	20	20	20	20	20	148	
Human resource positions									
Medical Officer (Allopathic)	18	22	14	18	18	16	19	125	84.5
Medical Officer (AYUSH)	12	8	0	14	8	12	1	55	37.2
Pharmacist	19	8	6	16	17	14	19	99	66.9
Nurse/Midwife	9	13	16	2	17	8	14	79	53.4
Lab Technician	11	7	6	2	14	14	8	62	41.9
Female Health Worker	15	15	6	9	4	9	12	70	47.3
Facility	Sub-Centre (SC)								
Total number surveyed	48	48	39	39	40	40	40	294	
Human resource positions									
ANM	46	48	39	38	32	34	40	277	94.2
Male Health Worker	10	48	11	24	5	23	12	133	45.2

“What is apparent from these findings is the lack of success in current approaches to address specialist gaps. Clearly we need new solutions.”

“In most of the high focus states, ANM and nursing schools began functioning in the first years of the NRHM and it is towards the closing years that we can expect higher recruitment.”

Interpretation of Findings

What is apparent from these findings is the lack of success in current approaches to address specialist gaps. Clearly we need new solutions. Regarding medical officers, however, the vacancy position except in Jharkhand is still short of targets but not alarming – especially if we factor in the information that most states have been appointing AYUSH medical officers to stand in. Comparison with baselines would show the progress made. In the nursing staff category, we also need to add the nurse and midwife along with female health workers who have qualified as ANMs. This is the big vacancy problem of the PHC which NRHM set out to address. The success achieved depends on the extent to which the number of seats and outputs of the state nursing schools were enhanced. In most of the high focus states, ANM and nursing schools began functioning in the first years of the NRHM and it is towards the closing years that we can expect higher recruitment. In sub-centers the advance was focused almost completely on closing the gaps for the first ANM. The male worker issue was largely left unattended to in the early years, and NRHM contributions towards this gap were initiated only in 2010.

The ASHA Programme

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

The facility survey elicited information about functioning of ASHAs in the selected sub-center service areas and the household survey provided information on their functioning in villages. This was supplemented by focus group discussions to understand their knowledge and awareness levels regarding their roles and responsibilities.

The data shows that most ASHAs in all the states have received training and are involved in all three of their primary roles : health awareness in the community, basic curative care , and facilitation of access to services from the health system. However, disbursements of incentives and allowances, as well as supply of medicines for their drug kits were not regular.

In the 48 villages of Uttar Pradesh, 75 ASHAs were interviewed to elicit their perceptions about their roles and responsibilities and co-ordination with ANM, Anganwadi Workers, Panchayat representatives, and the Village Health Sanitation Committees. 96 percent reported creating awareness in health programs. 83 percent had drug kits at the time of the survey and 84 percent were providing common medicines to the community, but only 45 percent had common medicines available at all times in the kit. Almost all ASHAs (99 percent) received some training, and 83 percent ASHAs had received any kind of incentives. 51 percent ASHAs were working with VHSCs and 40 percent were participating in preparation of the Village Health Plans (VHP). 84 percent reported that they were helping ANM/AWW in different health and nutrition related programs.

In Madhya Pradesh, of 46 ASHAs 98 percent of them reported about creating awareness regarding health programs. 91 percent had drug kits but only 65 percent has reported that common medicines were available all time in the kit. Almost all ASHAs (98 percent) have received some training and have got any kind of incentives. 83 percent ASHAs worked with VHSCs and 63 percent participated in preparation of VHPs. 100 percent reported that they were helping ANM/AWW in different health and nutrition related programs.

“*The data shows that most ASHAs in all the states have received training and are involved in all three of their primary roles : health awareness in the community, basic curative care, and facilitation of access to services from the health system.*”

In Jharkhand, the ASHA is known as the Sahiya. 50 Sahiyas were interviewed as a part of the study. 82 percent of them have reported about creating awareness about health issues. Only 38 percent had drug kits at the time of survey and nearly 42 percent were providing common medicines to the community. Almost all Sahiyas (98 percent) have received training, and 98 percent had received any kind of incentives.

In Orissa, 47 ASHAs were interviewed regarding their roles, responsibilities and cooperation with other supporting bodies for the betterment of health. 98 percent of them reported about creating awareness about health issues. All the ASHAs had received training, and 98 percent ASHAs had received any kind of incentives. 87 percent ASHAs were working with VHSC committee and 70 percent were participating in preparation of VHP. 100 percent reported that they were helping ANM/AWW in different health and nutrition related programs.

In Assam, 47 ASHAs were interviewed. 100 percent of reported about creating awareness regarding health issues. 97 percent were providing common medicines in the community. All ASHAs had received training and 98 percent ASHAs reported receiving some incentives. All the ASHAs were working with ANM/AWW in different health and nutrition related programs, with VHSCs and 85 percent were participating in preparation of VHP.

In Jammu and Kashmir, 42 ASHAs were interviewed. Out of the total interviewed ASHAs, 88 percent of them reported about creating awareness on health programs and issues. All ASHAs have been trained and have received some kind of incentives. Co-ordination with the health system and community platforms show that all the ASHAs were working with ANM/AWW for health and nutrition related programs, 55 percent ASHAs were working with VHSCs but only 35 percent were participating in preparation of VHP.

In Tamil Nadu the ASHA scheme has not been implemented till date. While interacting with senior officials from the Mission in Chennai it was discerned that these roles are played Village Health Nurses (VHNs) (as ANMs are called), in the state is working quite effectively.

The following table presents the status of the ASHA Program on its main components across the 7 states.

Table 3: Status of the ASHA Program

States	UP	MP	Jharkhand	Orissa	Assam	J&K	Tamil Nadu	India	Percentage
Total number of ASHAs interviewed	75	46	50	47	47	42	0	307	
Program components									
Resident of the serving village	62	46	49	47	47	41	0	293	95.4
Received any training	74	45	49	47	47	42		304	99.0
Receiving any incentive/compensation	23	43	25	43	47	41	0	222	72.3
Received TA/DA during training	54	44	27	44	46	31	0	246	80.1
Received TA/DA for meetings	28	32	20	35	31	2	0	148	48.2
Creating awareness and other health services	72	45	41	46	47	37	0	288	93.8
Received drug kit	62	42	19	46	44	38	0	251	81.8
Provides common medicines to patients	63	44	21	44	46	31	0	249	81.1
Common medicines available at all times in drug kit	34	30	34	27	23	5	0	153	49.8
Working with VHSC	38	38	38	41	47	23	0	225	73.3
Participates in preparing VHP	30	29	22	33	40	15	0	169	55.0
Coordinates with gram panchayat	43	32	13	27	33	7	0	155	50.5
Coordinates with ANM/AWW	63	46	47	47	47	42	0	292	95.1
Maintains village health register	64	40	34	43	41	31	0	253	82.4
Organizes VHND	40	26	14	36	25	31	0	172	56.0
Attends monthly meeting at PHC	32	28	31	47	32	32	0	202	65.8

Interpretation of findings

So far as the selection is concerned, it appears that most ASHAs are residential and this fulfils the criterion of a local resident serving as an ASHA which facilitates community rapport building. While a larger percentage of ASHAs report positively on their key functions related to awareness building and providing services, and coordination with the ANM and AWW, far fewer ASHAs have positive reports on coordinating with the Gram Panchayat and playing an active role in village health planning. However it is a fact that while states have invested in training the ASHA and enabled team work with the ANM and AWW, there has been less movement on working with VHSNC and village health planning. However, a bigger problem that the evaluation highlights as have other evaluations, is that the ASHAs incentive remuneration and regular supply of drugs, two important mechanisms to motivate and sustain the ASHA continue to be problematic.

Status of Health Facilities under NRHM: Mandated Services

Each health facility is mandated to provide a list of essential services. These have been determined on the basis of epidemiological and demographic factors in the population. Clearly the physical infrastructure and human resources, discussed in the above sections, at each facility are important determinants of their ability to provide quality services.

Availability of Specialist Services at the CHC level:

The critical gap at the CHC remains the availability of specialists. Of course where the concerned specialist skills are not in place, investments in equipment such as ultrasound and ECG, which the

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“The critical gap at the CHC remains the availability of specialists.”

“ While in five of the states 100% of CHCs visited offered round the clock delivery services, nine out of ten in Orissa and six CHCs out of the ten surveyed in Jharkhand offered this service. ”

“ In Uttar Pradesh, Emergency Obstetric Care facilities were reported only in two CHCs in Saharanpur out of 12 CHCs covered under 6 DHs in 6 districts. ”

general duty medical officer cannot use would be wasteful. Similarly, the vacancies in positions of obstetrician/gynaecologist imply that emergency obstetric care services will be negatively affected. The evaluation data shows that the provision of mandated referral services at the CHC level is poor. While most CHCs in all the seven states report 24 hours delivery services including normal and complicated deliveries, the availability of emergency obstetric care, emergency care for sick children, and safe abortion services, is lacking in most of the districts. While in five of the states 100% of CHCs visited offered round the clock delivery services, nine out of ten in Orissa and six CHCs out of the ten surveyed in Jharkhand offered this service. Since not all CHCs offer Emergency obstetric services, arrangements for referral and transport must be in place. In Tamil Nadu and J and K all CHCs linked to a functioning referral and transport system. 10/12 in MP and UP were so linked, in contrast to 7/10 in Assam, 8/10 in Orissa and 6/10 in Jharkhand. One lacuna that is evident across the states is the shortfall in availability of family planning services. The situation in UP and MP is better than in other states with nine and ten of the 12 surveyed offering FP services. In TN and Assam, only five of the ten CHCs in each state offer FP services. For TN one could likely attribute this to the fact the state provides fixed services in other facilities, and has met the need for FP. In the remaining states, only 30% of CHCs offered FP services.

In Uttar Pradesh, Emergency Obstetric Care facilities were 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 were lacking in terms of all these services.

In Madhya Pradesh only 2 CHCs of Hoshangabad reported 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 services were missing. Emergency services for sick children are missing in 4 CHCs in Katni and Neemach viz. Rithi, Umaria, Manasa and Sigoli.

In Jammu and Kashmir all the 10 CHCs reported availability of 24 hours delivery service for both normal as well as assisted deliveries. However, emergency obstetric care, caesarean and other surgical intervention services were available in only 2 CHCs in Jammu district viz. Akhnor and Bishnah. Further, emergency care for sick children was available in 4 out of 10 in CHCs viz. Chenani and Ram Nagar Udhampur district and Tangmarg and Pattan in Baramulla district.

In Jharkhand only 6 out of 10 CHCs reported availability of 24 hour delivery services. In Dhanbad and Chatra all 4 CHCs lacked these services. Further, emergency obstetric care, caesarean and other surgical interventions were not available in any of the 10 CHCs in the state. However, emergency care for sick children was reported to be

available in 6 CHCs under 3 DHs of Ranchi, Giridh and Chatra.

In Orissa 9 out of 10 CHCs reported availability of 24 hour emergency services for normal and assisted deliveries. Only 1 CHC in Udaypur in Keonjhar district lacked these services. But emergency obstetric care was available only in 2 out of 10 CHCs viz. Hari Chandan Pur in Keonjhar and Bissam Cuttak in Royagarh. Availability of emergency services for sick children was also poor at 3 out of 10 CHCs - Bissam Cuttak in Rayagarh, Hari Chandan Pur in Kendujhar and Chandanpur in Puri.

In Assam all 10 CHCs reported availability of 24 hours delivery services, but emergency obstetric care was available only in 2 CHCs viz. Sipajhar in Darrang district and Naharani in Dibrugarh district. Similarly emergency care for sick children was available only in 3 out of 10 CHCs viz. Morantilo and Naharani of Dibrugarh and Chariduar of Sonitpur district.

In Tamil Nadu 24 hours delivery services were reported to be available in all the 10 CHCs in 5 districts. However, emergency obstetric care, caesarean and surgical interventions were available in only 5 out of 10 CHCs under 5 DHs. The availability of emergency services was relatively better in Madurai and Tuticorin districts.

Availability of Primary Care Services - with special reference to RCH services

In Uttar Pradesh, 96 percent of the PHCs were providing OPD and 63 percent were providing IPD services. ANC, PNC and new born care services were available in 67 percent and 79 percent respectively. Family planning services were provided by all PHCs, but AYUSH services were very poor in the state and only 38 percent PHCs were providing these. In Saharanpur and Sultanpur, no PHC was providing AYUSH services. Most SCs were providing RCH services like ANC, PNC, new born care, except Mau where not even a single SC was found with these services. Family planning and contraception services were available in 90 percent of SCs with 100 percent in Mahoba, Sultanpur and Mau. 50 percent SCs reported availability of adequate medicines all the time and 92 percent SCs were providing immunization services as per government schedule in the state. Only 25 percent SCs were functioning as DOTS centres under the RNTCP program.

In Madhya Pradesh, all PHCs were providing OPD services, but IPD was available only in 71 percent. ANC, PNC and new born care services were available in 83 percent, 79 percent and 71 percent facilities respectively, and family planning services were getting provided in 79 percent PHCs. Again AYUSH services were very poor in the state and only 25 percent PHCs providing them. 70-90 percent of the SCs

“*In Assam all 10 CHCs reported availability of 24 hours delivery services, but emergency obstetric care was available only in 2 CHCs.*”

“*In Tamil Nadu 24 hours delivery services were reported to be available in all the 10 CHCs in 5 districts. However, emergency obstetric care, caesarean and surgical interventions were available in only 5 out of 10 CHCs under 5 DHs.*”

were providing RCH services, but in the case of Shivpuri only one SC was providing the same. Family planning and contraception services were available in 98 percent of SCs. 87 percent SCs have reported availability of adequate medicines at all times. 96 percent SCs were providing immunization services as per the government schedule in the state and 69 percent SCs were functioning as DOTS centres under the RNTCP program.

In Jharkhand, while all PHCs were providing OPD, only 50 percent were providing IPD services. ANC, PNC and new born care services were available in 95 percent, 80 percent and 70 percent facilities. But AYUSH services were very poor in the state and only 10 percent PHCs were providing the same. RCH services were being provided by more than 90 percent SCs, but newborn care was available in only 64 percent of the facilities. In Giridih district only one SC was proving these services. Family planning and contraception services were available in 92 percent of SCs. 67 percent SCs reported availability of adequate medicines. While provision of immunization services were universal in SCs, but only 64 percent SCs were functioning as DOTS centres under the RNTCP program.

In Odisha, 100 percent PHCs were providing OPD but only 30 percent had IPD services. ANC, PNC and new born care services were available in 80 percent, 65 percent and 35 percent facilities and family planning services was provided by 70 percent PHCs. Availability of AYUSH services was strong in the state with 75 percent PHCs providing the same. ANC, PNC and child care services were provided in more than 85 percent SCs but new born care was available in only 69 percent and in Bolangir district only one SC was proving this facility. Family planning and contraception services were available in 95 percent of SCs. 90 percent SCs have reported availability of adequate medicines all the time. All SCs were providing immunization services and 72 percent were functioning as DOTS centres under RNTCP program.

In Assam, 100 percent PHCs were providing OPD services but only 30 percent were providing IPD services. ANC and PNC services were available in 90 percent cases, but new born care services were available in only 45 percent facilities. Availability of AYUSH services was poor in the state as only 40 percent PHCs were providing the same.. While RCH services were provided by almost all the SCs surveyed, only 25 percent of SCs had the new born care. In Dibrugarh district not even one SC reported providing this facility. Family planning and immunization services were provided by all SCs, but only 60 percent were functioning as DOTS centres under the RNTCP program.

In Jammu and Kashmir, all PHCs were providing OPD services and 80 percent were providing IPD services. ANC and PNC and new born

care services were available in 95percent and 65 percent facilities respectively and family planning services were being provided by 85 percent PHCs. AYUSH services were relatively better in the state and 65 percent PHCs were providing these services. PNC and new born care was provided only in 50 percent SCs, although family planning, immunization and DOTS services were almost universal.

In Tamil Nadu, provision of IPD and OPD services, ANC, PNC and new born care were universally provided. Only 15 percent PHCs were providing AYUSH services. 97.5percent SCs had ANC and PNC services, but new born care was available in only 40 percent. Family planning and contraception services were available in 95percent of SCs. 97.5 percent SCs have reported availability of adequate medicines at all times. All SCs were providing immunization services as per the government schedule in the state and 92.5percent were functioning as DOTS centres under the RNTCP program.

Table 4: Status of mandated services in health facilities

States	UP	MP	Jharkhand	Orissa	Assam	J&K	Tamil Nadu	India	Percentage
Facility	Community Health Centre (CHC)								
Total number surveyed	12	12	10	10	10	10	10	74	
Mandated services									
Ante Natal Care	12	12	6	10	9	10	10	69	93
Post Natal Care	8	12	7	10	10	10	10	67	91
Immunization	7	9	9	10	9	9	5	58	78
OPD	9	5	1	5	4	9	7	40	54
24 hour delivery services	12	12	6	9	10	10	10	69	93
Emergency obstetric care, caesarean, surgical intervention	4	6	0	2	2	2	5	21	28
Emergency care for children/newborn	9	9	6	3	3	6	5	41	55
Safe abortion services	5	8	2	7	6	7	2	37	50
Family planning services (including laparoscopy)	9	10	3	3	5	2	5	37	50
Referral transport services	10	10	6	8	7	10	10	61	82
Facility	Primary Health Centre (PHC)								
Total number surveyed	24	24	20	20	20	20	20	148	
Mandated services									
OPD	23	24	20	20	20	20	20	147	99.3
IPD	15	17	10	6	6	16	20	90	60.8
Emergency services	19	14	10	10	13	15	15	96	64.9
ANC	16	20	19	16	18	19	19	127	85.8
PNC	19	19	16	13	18	19	20	124	83.8
Child care and immunization	18	23	18	11	19	19	19	127	85.8
Newborn care	19	17	14	7	9	13	20	99	66.9
Family planning	24	19	14	14	19	17	13	120	81.1
Nutrition services	13	10	7	10	7	4	19	70	47.3
Disease surveillance and epidemic control	18	20	15	18	17	18	20	126	85.1
Collection and reporting of vital statistics	10	15	10	4	9	20	20	88	59.5
AYUSH services	9	6	2	15	8	13	3	56	37.8
Rehabilitation services	7	5	7	4	3	3	3	32	21.6
MOs monthly visit to SCs	20	21	16	19	18	18	20	132	89.2
Facility	Sub-Centre (SC)								
Total number surveyed	48	48	39	39	40	40	40	294	
Mandated services									
ANC	31	43	36	32	27	20	39	228	77.6
PNC	23	37	37	38	38	34	39	246	83.7
Child care and immunization	41	46	36	39	40	40	26	268	91.2
Newborn care	25	34	25	27	10	36	16	173	58.8
Family planning	43	46	36	37	40	38	38	278	94.6
Referral services	13	19	10	19	12	12	36	121	41.2
DOTS services	12	33	25	28	24	39	37	198	67.3

“The CHC is now able to provide all the services expected of a 24*7 PHC, but not the first referral unit and specialist care services- except in about 25% for emergency obstetric care and 50% for family planning services, abortion and newborn care.”

Interpretation of Findings:

The pattern that emerges from the data on service provision is interesting. The CHC is now able to provide all the services expected of a 24*7 PHC, but not the first referral unit and specialist care services- except in about 25% for emergency obstetric care and 50% for family planning services, abortion and newborn care. The question that arises is whether to invest more in strengthening the quality of care in these 25 to 50% of CHCs which would still be a large number consistent with international norms, or to press ahead to make every CHC a First Referral Unit?

Similarly almost all PHCs are functional as sites of regular general out-patient care. They are in any event not intended to be providing in-patient care. Only about two thirds of them provide in-patient care, new born care and other services that 24*7 PHC provides. Thus there is no scenario of a collapsed primary health care even in the most challenged of the states. However the question is whether the policy direction should focus on making only a selected sub-set of PHCs provide 24*7 services- or attempt to bring all PHCs provide the services of the same level.

Regarding sub-centers, only one fourth are able to manage newborn- and presumably provide midwifery services- but all provide immunisation care, antenatal and post natal care and some degree of first contact primary health care. Should we interpret IPHS to mean that every sub-center MUST provide midwifery services, or should we learn from the experience and upgrade SCs only where it is essential to do so? In terms of assessing NRHM performance the big question is whether this level of primary care provisioning is a big improvement over the baseline- and what is feasible and desirable- or whether we should judge NRHM against every sub-center and PHC and CHC achieving the IPHS.

Processes of Decentralization and Communitization

One of the core strategies of the NRHM is to empower local governments to manage, control and be accountable for public health services. It envisions the setting up of the State Health Mission led by the State Departments of Health and Family Welfare, the District Health Mission led by the Zila Parishad and the Village Health Plan to be formulated by the Gram Panchayat. The NRHM has created structures at each of these levels for the planning and implementation of the initiatives to be undertaken within the Mission. Besides this, Rogi Kalyan Samitis (RKS) have been created at the CHC level and Village Health and Sanitation Committees (VHSCs) at the village level to become platforms for the community to participate in monitoring health services, facilities and programs.

The current evaluation study attempts to understand the processes of decentralization and communitization by assessing district health societies and VHSCs.

Governance at the District and Facility Level: The evaluation study found that District Health Societies (DHSs) in all seven states were functioning well in selected aspects of moving towards decentralization. Vertical integration of all the Health Societies created under different programmes in the districts into District Health Society was reported in all districts in UP, MP, Jharkhand and Tamil Nadu, except for Kendrapara in Orrisa and Sonitpur in Assam. National Disease Control Program (NDCP), though still under separate disease-specific head under NRHM budget also, seemed to be working well in most of the districts. Nevertheless reporting of data on the incidence of diseases was quite poor.

Upgradation of CHCs to Indian Public Health Standards is a major strategic intervention under NRHM, the purpose of which is to provide

“ In terms of assessing NRHM performance the big question is whether this level of primary care provisioning is a big improvement over the baseline- and what is feasible and desirable- or whether we should judge NRHM against every sub-center and PHC and CHC achieving the IPHS. ”

“ Vertical integration of all the Health Societies created under different programmes in the districts into District Health Society was reported in all districts in UP, MP, Jharkhand and Tamil Nadu, except for Kendrapara in Orrisa and Sonitpur in Assam. ”

sustainable quality care with accountability and people's participation along with total transparency. However, there is a general apprehension that this may not be possible unless a system is evolved for ensuring a level of permanency and sustainability. This requires development of a management structure called as 'Rogi Kalyan Samiti'. Rogi Kalyan Samiti is a simple, yet effective management structure, which is a registered society, acting as a group of trustees for CHC/ hospitals/ to manage the affairs of the hospitals. It consists of members from local PRI, NGOs, local elected representatives and officials from Government Sector, who are responsible for proper functioning and management of hospitals/ CHCs/ FRUs. The RKS is free to prescribe, generate and use the funds placed with it, as per its best judgment for smooth functioning and maintaining the quality of services.

The formation of RKSs at the CHC level was assessed by this study. It was found that while UP, MP, Orissa and Assam had functioning RKSs, only 50 percent CHCs in Jharkhand, none of the CHCs in Jammu and Kashmir, and 20 percent CHCs in Tamil Nadu did not have RKSs constituted and functioning at the time of data collection for this study.

Governance at the Gram Panchayat and Village Level: The NRHM visualizes 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's health in people's hands". All GPs of sampled villages were interviewed, using a structured GP village schedule.

In Uttar Pradesh about 41 Gram Panchayat (GP) members were interviewed in the selected districts. VHSC were set up under NRHM but there were gaps in functioning, with only 44 percent VHSCs involved in preparing any Village Health Plan (VHP) and only 20 percent GPs maintain a village health calendar. 90 percent GPs reported availability of safe drinking water in the village and only 15 percent reported availability of community toilets. 71 percent VHSCs have received untied funds and 27 percent have reported facing implementation challenges.

In Madhya Pradesh, 39 GP members were interviewed in the selected districts for evaluation. 70 percent VHSCs were involved in preparing VHPs and analysis of issues/problems related to village level health and nutrition. 70 percent GP members reported that they were maintaining village health calendars. 95 percent GP members reported the availability of safe drinking water in their villages but only 8 percent have reported availability of community toilets. 51 percent

VHSCs received untied funds and 23 percent reported facing problems in the implementation of health related programs under NRHM.

In Jharkhand, 26 GP members were interviewed in the selected districts for evaluation. Only 31 percent VHSCs were involved in preparing any VHP and analysis of issues/problems related to village level health and nutrition, and only 4 percent GP members reported maintenance of any village health calendar. 92 percent GP members reported availability of safe drinking water in their villages and none of them reported the availability of community toilets. 35 percent VHSCs received untied funds and only 19 percent reported facing problems in the implementation of health related program under NRHM. The results show very poor performance of the state in communitization processes.

In Orissa, 39 GP members were interviewed in the selected districts for functioning of VHSCs. Only 31 percent VHSCs were involved in preparing VHPs and analysis of issues/problems related to village level health and nutrition, and only 4 percent GP members reported that they were maintaining any village health calendar. Regarding availability of common health and sanitation facilities, 92 percent GPs had safe drinking water but there were no community toilets in the village. 35 percent VHSCs received untied funds and only 19 percent reported facing problems in the implementation of health related program under NRHM.

In Assam, 40 GP members were interviewed. 85 percent GPs reported preparing any VHP and analyzing issues/problems related to village level health and nutrition, and 67 percent GP were maintaining village health calendars. Regarding availability of common health and sanitation facilities, 100 percent GPs had safe drinking but none of the villages had community toilets. 95 percent VHSCs received untied funds and only 27 percent reported facing problems in the implementation of health related program under NRHM.

In Jammu & Kashmir, 38 GP members were interviewed in the selected districts. Only 26 percent GPs reported preparing any VHP and 13 percent analyzed issues/problems related to village level health and nutrition. None of the VHSCs were maintaining any village health calendar. The results show poor performance in the state. Regarding availability of common health and sanitation facilities in the village, 95 percent GPs had safe drinking water but there were no community toilets in the village. 37 percent VHSC received untied funds and 45 percent reported facing problems in the implementation of health related program under NRHM.

In Tamil Nadu, 37 GP members were interviewed in the selected districts for evaluation of functioning of VHSCs. 87 percent VHSCs were involved in preparation of their VHPs and 56 percent had

reported analyzing the issues/problems related to village level health and nutrition. 49 percent GPs reported that they were maintaining any village health calendar. The results show active involvement of VHSCs in the health care services in the villages. Regarding availability of common health and sanitation facilities in the villages, 100 percent GP had safe drinking water and 70percent villages had community toilets. 97 percent VHSC received untied funds and 24 percent reported facing problems in the implementation of health related program under NRHM.

Table 5: Status of decentralization and communitization processes

States	UP	MP	Jharkhand	Orissa	Assam	J&K	Tamil Nadu	India	Percentage
Platform	District Health Society (DHS)								
Total number surveyed	6	6	5	5	5	5	5	37	
Processes									
Vertical health societies merged under DHS	6	6	5	4	4	1	5	31	84
Common bank account for all programs	3	2	5	4	4	1	4	23	62
Prepared DAP for current year	6	6	5	4	5	3	5	34	92
Electronic funds transfer from state to district	6	5	5	4	5	4	5	34	92
Undertake health facility surveys/supervision of HH surveys	2	2	2	4	3	1	5	27	73
Monthly monitoring of infrastructure under NRHM	6	5	5	3	4	2	4	29	78
Platform	Rogi Kalyan Samiti (RKS)								
Total number surveyed	12	12	10	10	10	10	10	74	
Processes									
Functioning RKS	11	12	5	10	10	0	8	56	76
Platform	Village Health and Sanitation Committee (VHSC)								
Total number surveyed	41	39	26	39	40	38	37	260	
Processes									
Functioning VHSC	30	34	20	34	40	37	35	230	88
Maintain any VHP	18	28	8	19	34	10	32	149	57
Maintain village health register	25	27	8	29	27	9	34	159	61
Organize regular meetings	28	22	13	8	32	31	32	166	64
Safe drinking water in the village	37	37	24	39	40	36	37	250	96
Community toilets in the village	6	3	0	0	0	1	26	36	14
VHSC provides for jan samwad	18	15	3	15	5	1	15	72	28
Coordination with SC/PHC/CHC	36	36	25	22	34	38	33	224	86
VHSC receives untied funds	29	20	9	22	38	14	36	168	65
VHSC facing implementation challenges	11	9	5	8	11	17	9	70	27

“The picture that emerges from the survey of the VHSNC, an important vehicle to address social determinants at the village level shows persisting gaps. Using two variables, i.e, receipt of funds and regular meetings, as parameters of a functional unit, less than 2/3 across seven states reported doing both.”

Interpretation of findings:

States appear to be on track with regard to at least establishing the platforms for decentralized management at the district level, although integration of bank accounts appears to be incomplete. Regarding Rogi Kalyan Samitis, none have been set up in the state of J & K, while the other states seem to fare better, although it is difficult to assess functioning from the data available. The picture that emerges from the survey of the VHSNC, an important vehicle to address social determinants at the village level shows persisting gaps. Using two variables, i.e, receipt of funds and regular meetings, as parameters of a functional unit, less than 2/3 across seven states reported doing both. Clearly strengthening the VHSNC is an unfinished agenda of the NRHM, and needs creative and ingenious strategies to undertake support, training, and building agency among these groups.

Facility Performance Indicators: a comparison across the 7 states

As mentioned in the section on methodology earlier in this report, a composite index to compare facility performance scores was calculated for each state, based on selected key indicators for performance of facilities, availability of infrastructure, capacity building, and service utilization under NRHM initiatives. The best performing state, and therefore the benchmark, for a given parameter is given a score of 1.000 and the worst a score of 0.000. The performance of each of the seven states on seven parameters is ranked with respect to the benchmark.

Clearly Tamilnadu is the benchmark for most parameters and very close to the benchmark for the remaining. One important reason why this state, (which also had a much better baseline) was purposively chosen in this sample of seven states, was to measure achievement of the high focus states with reference to a benchmark for performance. We also note that the outcome indicators used in this comparison may be misleading as they reflect baselines more than NRHM performance. This is a limitation for the comparison in all parameters, since performance at baselines were widely different- but we could use the comparison to see the gap between their final situation and the benchmark state- and this would give us an idea- not so much about NRHM performance, but the relative gaps that different still have to traverse to attain the NRHM objectives.

Analysis of data also reveals that as far as physical infrastructure per 100,000 population with respect to PHCs, CHCs, and FRUs, Jammu and Kashmir is far ahead of Tamil Nadu and the other states studied. For the utilization of public health facilities for ANC and PNC services, Tamil Nadu is the best performing state and UP, MP and Assam are the worst. On institutional deliveries, Tamil Nadu is the best performing state and Jharkhand is at the bottom.

The following table shows the state scores in the composite index reflecting their respective performance.

Table 6: Composite index scores for states on performance in NRHM

States	UP	MP	Jharkhand	Orissa	Assam	J&K	Tamil Nadu
Indicators	Composite Index Scores						
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
ASHAs trained (percentage)	0.601	0.000	0.800	0.961	1.000	0.730	1.000
Average distance to sub-centre	1.000	0.669	0.859	0.811	0.902	0.000	0.962
Average distance to PHC	1	0.497	0.547	0.818	0.902	0	0.886
Average distance to CHC	0.958	0.569	1	0.816	0.761	0	0.876
PHC per 100000 population	0.334	0.279	0	0.793	0.623	1	0.803
CHC per 100000 population	0	0.284	0.716	0.522	0.09	1	0.463
FRU per 100000 population	0.012	0.118	0	0.094	0.2	0.659	1
Full ANC (rural)	0	0.104	0.1	0.405	0.096	0.54	1
PNC (rural)	0.042	0.065	0	0.007	0.026	0.327	1
Institutional deliveries	0.039	0.147	0	0.274	0.049	0.493	1
Full immunization	0	0.036	0.418	0.575	0.318	0.562	1
Ranking scores	4.122	3.304	6.725	7.392	6.733	7.785	13.989

“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.”

Utilization Patterns of Health Services

An important objective of the present study was to assess the availability, adequacy and utilization of health services in the rural areas. 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.

Institutional deliveries are reported to be highest in Tamil Nadu (96.6percent), followed by MP (63.3percent), Assam (56.9percent), Orissa (52.6percent), Jharkhand (46.1percent), UP (45.8percent) and lastly J&K (38percent).

Regarding PNC we find almost all states have reported PNC care by more than 65percent of the lactating women excepting J&K with 57percent utilization. Almost similar percentages of lactating women have reported to be JSY beneficiaries

Usage of family planning services, public or private, is reported to be maximum in Assam (65.5percent) followed by Tamil Nadu (63.3percent), J&K (61.6percent), Jharkhand (54.7percent), MP (53.7percent), Orissa (53.4percent) and lastly UP (42.3percent). 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 we find that majority of the patients are utilizing public health facilities in Tamil Nadu (94percent), Assam (90.3percent), Orissa (86.8percent), J&K (83.5percent), Jharkhand

(69.8percent), MP (63percent) and UP (44.6percent). Overall utilization being poor in UP, MP and Jharkhand reflects that may be problems of both access and quality of basic health care may be poor in these states compared to others where the utilization is almost above 85percent.

Awareness about ASHA scheme was much higher than about NRHM per se, and this clearly reflects the role of ASHA as the face most linked to the NRHM initiatives as compared with others like VHSCs or VHNDs. Interestingly source of knowledge about these initiatives are predominantly ASHA/ANM and not print or electronic media. Also the study finds that most of the ASHAs are reported to be carrying kits and are also reported to be involved in counseling over sanitation and hygienic practices as well as distribution of common medicines. ASHAs role was quite important 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 equipment 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.

Despite substantial efforts in mainstreaming AYUSH, only 0.5percent (9/1534) of patients with chronic disease had opted for treatment under AYUSH comprising of eight under Ayurveda and only one under Unani system of Indian Medicines. This includes two patients with Asthma, two with Tuberculosis, and five with Joint Pains/others. Further, six of the nine patients opting for the Indian system of medicines (AYUSH) were from UP, two from MP and only one from Orissa. Possibly, more innovative interventions are required to mainstream AYUSH in rural India.

Functioning of VHSCs and VHNDs scheme needs to be monitored for increased effectiveness. Though awareness about health services and schemes has increased, this needs further strengthening for better results from NRHM initiatives. It is interesting to observe that utilization of health services has increased not just among the vulnerable/poorer and underserved sections in the rural areas but also among higher socioeconomic categories of the rural population.

“ Awareness about ASHA scheme was much higher than about NRHM per se, and this clearly reflects the role of ASHA as the face most linked to the NRHM initiatives as compared with others like VHSCs or VHNDs. Interestingly source of knowledge about these initiatives are predominantly ASHA/ANM and not print or electronic media. ”

“*Service utilization for antenatal care, institutional delivery, post natal care, contraceptive services, immunization and chronic disease treatment were studied.*”

“*With respect to NRHM performance the study showed the impact of key NRHM program initiatives for enhanced outreach of health services on obstetric care, child immunization, family planning, and chronic disease control which have turned out to be significant even after controlling for socioeconomic, demographic and cultural factors in rural India.*”

Determinants of Health Service Utilization

One of the most difficult challenges of any evaluation is to be able to correlate increased outcomes in terms of utilization of services to key programme variables, recognizing that socio-economic and geographic determinants also play a major role. This study used a number of techniques to assess the role played by ASHAs, VHSCs, VHNDs, and the very availability of public services in proximity, in contributing to this increased utilization of services. Service utilization for antenatal care, institutional delivery, post natal care, contraceptive services, immunization and chronic disease treatment were studied. For antenatal care, institutional delivery and post natal care, the comparisons were between non users, users of private sector services and user of public sector services. For immunization the comparisons were between the children fully immunized and those partially immunized. The private sector was a marginal, or almost a non player in the delivery of this service. In chronic disease treatment the comparison was between care in public sector and private sector.

Various factors affecting patterns of utilization of the above listed services were analysed utilizing cross tabular, binary and multinomial logit analytical techniques. We elicit probabilities of seeking treatment from alternate sources in the multinomial logit model. All of these analyses were based on the household survey conducted in 7400 households from 296 villages of 37 districts in seven states.

The analysis shows that household level 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. show a significant positive impact in promoting utilization of health care facilities, whether private or public, amongst women during pregnancy, delivery, and in the 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.

With respect to NRHM performance the study showed the impact of key NRHM program initiatives for enhanced outreach of health services on obstetric care, child immunization, family planning, and chronic disease control which have turned out to be significant even after controlling for socioeconomic, demographic and cultural factors in rural India.

Ante-Natal Care Services:

For antenatal care the analysis was based on information elicited from the sub-set of 1584 pregnant women in the above household survey.

“Around 92 percent of pregnant women have utilized any ANC, from public or private health care facilities. Further the 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 show a higher tendency to seek 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. (This finding is a feature of all utilization of services described subsequently and is therefore not repeated in full each time).

The ASHA’s role turns out to be extremely important in terms of motivating pregnant women for utilization of ANC care from public sector health facilities. Pregnant women in villages where ASHA makes weekly home visits and distributes free medicines clearly show a higher propensity to seek ANC from public sector health care facilities. Interestingly, we find that the 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 counseling to pregnant women. To capture the quality of the ASHAs interaction we asked respondents of the household survey about the frequency of home visits of the ASHA, and whether she was disbursing medicines from her drug kit (which implies that she has an adequately stocked drug kit), and whether she had counselled her on health, nutrition, sanitation and hygienic practices. It turns out that each of these parameters also significantly correlate with better outcomes in terms of access to antenatal care.

The majority of the mothers sought antenatal care from a nearby SC/PHC. On the other hand, a greater distance from the nearby centre appears to be a significant deterrent for the utilization of public healthcare services and compels women to opt for private health facilities for seeking antenatal care.

“*Pregnant women in villages where ASHA makes weekly home visits and distributes free medicines clearly show a higher propensity to seek ANC from public sector health care facilities.*”

“ *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, both ASHAs performance and the holding of VHNDs, play.* ”

“ *Further, no-use probability for delivery care in rural areas increases with increase in distance from the FRUs.* ”

“ *Thus, women who have preference for private sector facilities for obstetric care don't get affected by the program factors like ASHA's visit, holding of village health and nutrition day or proximity to the public health sector facilities for "delivery care" in rural areas.* ”

Institutional Delivery Services:

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.

In terms of social determinants we find we find that more mothers of younger ages access delivery care from public health facilities compared with mothers of higher age groups. Further, the level of the mother's education depicts significant and positive impact on utilization of any institutional delivery care. Further, we find that more educated women utilize more private healthcare facilities compared with public healthcare facilities for the delivery care.

But most important from the view point of assessing NRHM performances, mothers from households which are visited more frequently by ASHAs, depict significantly higher utilization of public health care facilities. The women visited by ASHAs also had better sanitation facilities like toilet facility and potable water within residential premises.

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, both ASHAs performance and the holding of VHNDs, play significant roles in increasing institutional deliveries, especially in the public health facilities.

However the most interesting observations are related to distance from a first referral unit. We caution that an FRU in this context may just mean a more assured availability of services with ability to manage a greater range of complications and not necessarily the ability to undertake C- Sections. To quote the findings in the main report verbatim " 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 are affected by proximity of the public health care facilities and are thus compelled for no-use for delivery care. Thus, women who have preference for private sector facilities for obstetric care don't get affected by the program factors like ASHA's visit, holding of village health and nutrition day or proximity to the public health sector facilities for "delivery care" in rural areas. The analyses clearly suggest that women from poorer categories have a higher benefit for utilization of public health sector facilities for delivery care as compared to richer and educated women." pg 111

Predominantly the 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.

Post- Natal Care Services

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.

The findings are that “around 63 percent of mothers of youngest child born in last five years have utilized postnatal care, from public or private health facilities. Further, out of 63 percent women who sought postnatal care, we find majority of these women i.e. 61 percent, sought the care from public health facilities, and only two percent are from 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.”

Again, the findings confirm that women with higher education and from higher income households’ depict higher likelihood of utilizing public as well as private health care facilities for postnatal care. Further, mothers having complicated deliveries show a higher likelihood of utilizing postnatal care compared with mothers having normal deliveries.

Coming to factors attributable to NRHM components, “we find 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 PNC. Nevertheless, ASHA’s visits also depict impact on likelihood of utilization of even private health facilities for 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 a significant increase in the usage- probability of public health facilities for postnatal care.” In terms of constraints, the distance of PHCs has been the most important deterrent effect on utilisation of PHC for postnatal care.

Immunization Services:

Children’s immunization with at least one vaccine was almost universal. “Further, vaccinations of children had primarily been administered in the public health institutions, whereas only 0.3 percent of any immunizations were through private health professionals/institutions in the rural areas. The majority of the vaccinations were administered at SCs (68%) or PHCs (9%). Thus, binary logit regression estimates

“*Interestingly, ASHA’s visit to household becomes responsible for a significant shift from no-use to use of public health facilities for PNC. Nevertheless, ASHA’s visits also depict impact on likelihood of utilization of even private health facilities for postnatal care.*”

“*The likelihood of being fully immunised rises from 61% to 72% if the children are born in an institution. Again, we find the role of ASHA significant in motivating mothers and the more all round functionality of ASHA - frequent home visits, distribution of common medicines, proper counselling for full immunization- the greater the likelihood of full immunization.*”

“*Similarly the role of holding Village Health and Nutrition Days as well as Village Health and Sanitation Committee meetings in rural areas also depict significant and positive impact on the likelihood of using contraceptive methods.*”

“*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.*”

provide parametric estimates for complete immunization against partial immunizations amongst youngest of the children aged 1-5 years. The analysis is based on information elicited from 4498 mothers about the immunization status of their last born child during last five years.

Again, higher education level of women and better economic conditions make for a higher likelihood of having children fully immunized as compared with the partially immunized. Children born in health institutions also show a higher probability of being fully immunized compared with those born at home. The likelihood of being fully immunised rises from 61% to 72% if the children are born in an institution. Again, we find the role of ASHA significant in motivating mothers and the more all round functionality of ASHA - frequent home visits, distribution of common medicines, proper counselling for full immunization- the greater the likelihood of full immunization.

Family Planning Services

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 is the likelihood of adopting permanent methods of contraception which improves very fast among women with one and two sons compared with women having no son. Again we find that the role of the ASHA is significant in motivating women/couples in using both temporary as well as permanent methods of contraception. Similarly the role of holding Village Health and Nutrition Days as well as Village Health and Sanitation Committee meetings in rural areas also depict significant and positive impact on the likelihood of using contraceptive methods.

Chronic Disease Treatment Services

Treatment seeking behaviour of chronic disease patients was based on information elicited from 1534 patients.

The findings are counter-intuitive. To quote “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, the likelihood of using public health facilities for treatment of chronic diseases is higher among the 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." (Pg 121)

Coming to program factors we find ASHA's frequent visits, and the visit quality in including distribution of medicines and counselling, correlates to 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. Also we find that ASHA's home visits and counselling promotes utilization of family planning services primarily from public health facilities. Further, ASHA visits and counselling promote utilization of chronic disease control services for which most of patients visit District Hospitals for treatment.

It has been observed that women's utilization for PHCs is more for antenatal and postnatal care and for delivery the usage of FRUs predominates- possibly because of more assured services in the larger hospital.

Interpretation of the findings:

Role of ASHAs predominantly but also VHSCs and VHNDs, turns out to be extremely important in promoting utilization of public health care facilities for ante-natal, post natal care, immunization, Family Planning services and treatment of Chronic Diseases. Frequent home visits, distribution of common medicines and proper counselling makes significant impact in motivating pregnant women to visit nearby SCs and PHCs for all the above care. The major deterrent or constraint in use of such care is the distance to the PHC.

Further, we find an important role of ASHAs in motivating pregnant women to make use of public health care facilities for delivery care and for treatment in chronic illness. For delivery care we find that primarily FRUs, implying District Hospitals and Community Health Centers, are being utilized and seem to be responsible for improvements in the institutional deliveries. We note that though use of private sector increases as distance from nearest public facility increases- the

“ *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.* ”

“ *Further, ASHA visits and counselling promote utilization of chronic disease control services for which most of patients visit District Hospitals for treatment.* ”

“*Thus the use of private sector may not be a response to perception of better quality, but a response to better access and availability in the public sector.*”

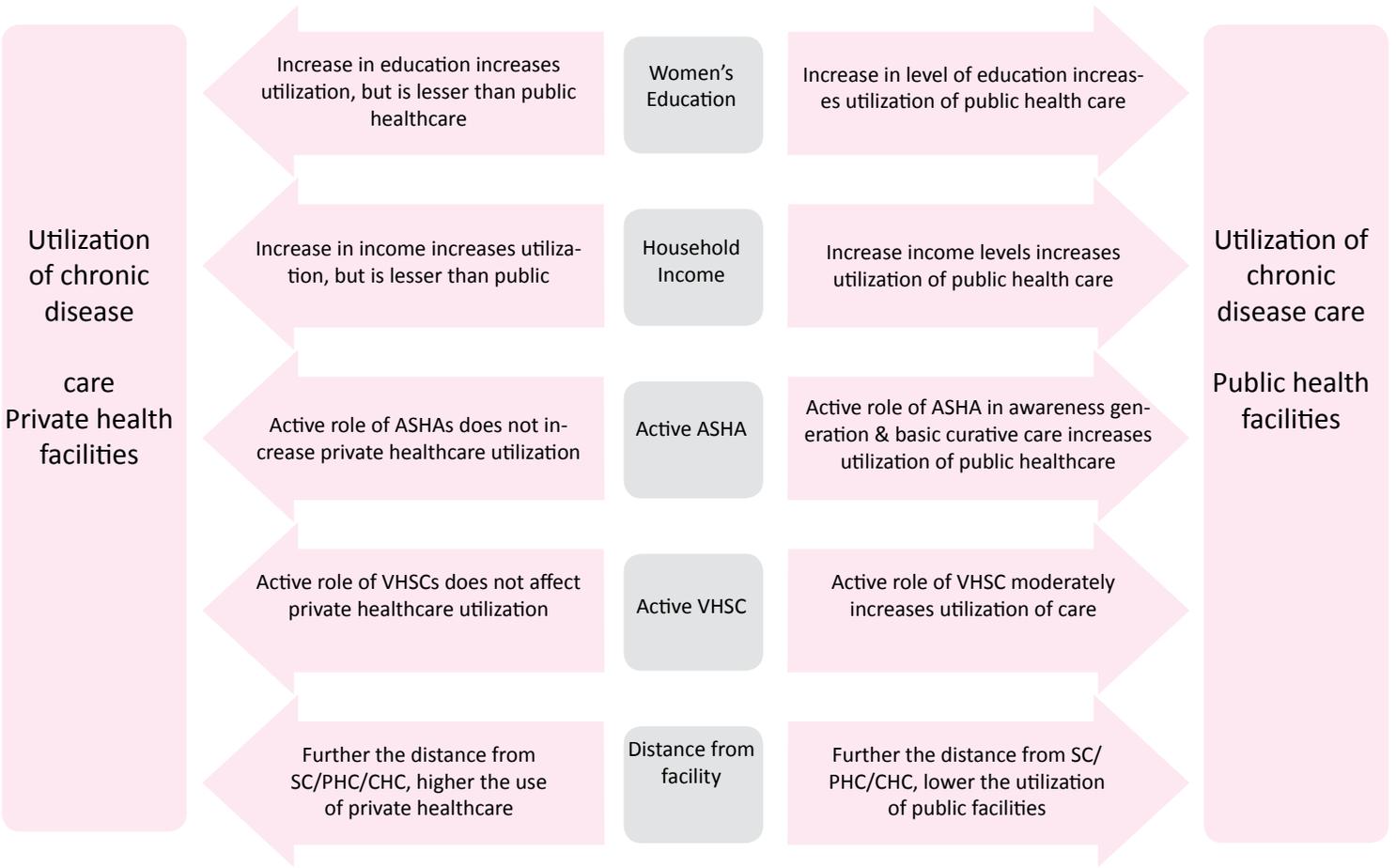
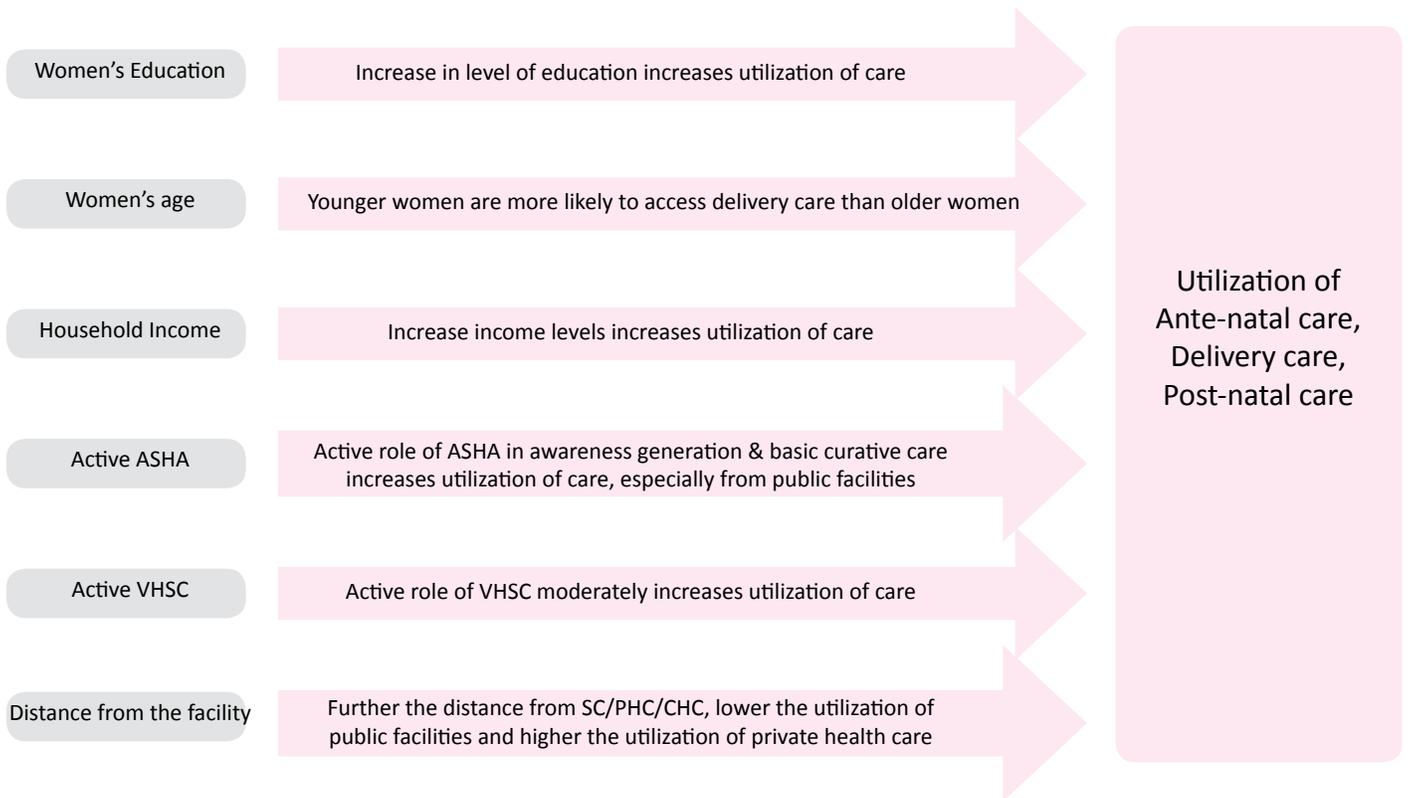
converse is not true. None of the above factors- role of ASHA, VHSC or VHNDs, or even proximity of private sector facility have any role in increasing utilisation by private sector.

What is true for delivery care is also true for chronic diseases- with the further finding that the younger , the more educated and even the higher income group would also prefer the public facility if distance is adjusted for. Thus the use of private sector may not be a response to perception of better quality, but a response to better access and availability in the public sector. Just like distress migration to urban areas is not to be interpreted as urbanisation consequent on development, so too a lot of migration to the private sector seems related to lack of access to services in the public sector rather than an active preference for the private sector on grounds of quality or for any other reasons.

It is interesting to observe that what the NRHM, or at least these components as has been assessed has done is to increase utilization of health services to the vulnerable/poorer and underserved sections in the rural areas who did not have access earlier- by making more facilities functional and by mobilisation and facilitation. But it is also noted that in some services the impact of NRHM has increased utilization levels in higher socioeconomic categories of the rural population.

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

The following exhibits present the strength of relationship of different determinants on health service utilization – ANC, delivery care and PNC (exhibit 2) and chronic disease care services (exhibit 3).



Recommendations

It is clear from the above analyses that the status of health facilities in terms of physical infrastructure and human resources need significant inputs in order to achieve the desired goals of quality service delivery, and consequently the aims of the NRHM. Besides highlighting the gaps, the determinants analysis presented above, show the demographic and program variables that need to be strengthened and prioritized in order to impact utilization of the services under NRHM.

Some recommendations based on the analyses to achieve the broad objectives of NRHM initiatives are as follows:

- Filling vacant positions of specialists, doctors, and staff nurses, diagnostic-facilities technicians is crucial for service delivery. Supplementation through contractual appointments under NRHM would facilitate in filling the gaps and augment delivery of health services in rural areas.
- Peripheral public health facilities like SCs and PHCs are primarily used for antenatal, postnatal and children's immunization services. Thus adequate positioning of ANMs, ASHAs and FHWs and also provisioning of cold chains would facilitate improvements in their functioning.
- FRUs (DHs/CHCs) are primarily used for delivery care and chronic disease treatment. Thus strengthening of FRUs with adequate human resource, specialised equipment, drugs, diagnostic facilities, and blood banks/storage facilities would improve the quality of care in FRUs. This will also facilitate provisioning of emergency obstetric care (EmOC), 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 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.
- As seen above, ASHAs are a crucial determinant in the uptake of public health services. Thus it is important that ASHAs are mentored. Refresher trainings for updating skills apart from recruitment and routine training would strengthen their role in the community and facilitate further increase in the utilization of existing health facilities and services.
- AYUSH needs to be invigorated by more innovative interventions as presently utilization is very low, especially for serious ailments.

- Procurement and supply of drugs need immediate attention in most of the states as it is hampering the effective utilization of health services. Free supply of generic drugs, at least to the BPL population, would improve the utilization of the health facilities and lead to better health outcomes.
- 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, and other health determinants 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 communitization 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. The decision of the Government of India to start Bachelor of Rural Medicine and Surgery course on similar lines is certainly a welcome step towards addressing the significant human resource gaps.
- Outsourcing of peripheral services like cleaning, catering services, waste management, civil construction, maintenance of buildings, and referral transport services under public private partnerships (PPP) can reduce the work load of health officials and facilitate their concentration on strengthening of the 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.
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EXECUTIVE SUMMARY

The objective of the Concurrent Evaluation of NRHM is to assess the reach of NRHM activities to the rural communities. The concurrent evaluation was completed in 187 districts covering 33 States and Union Territories. In this report, we provide key findings on the household and women's response to NRHM including *Janani Suraksha Yojana* (JSY), and outcomes of the core strategies of NRHM like communitisation of services and innovations at community level. It also presents functioning of ASHA, ANM and the status of physical infrastructure and human resources at the health facility levels.

Household response

One-fifth of households belonged to scheduled castes; one-fourth belonged to scheduled tribes and one-third to the other backward classes (OBCs). About two-fifth of households belonged to Below Poverty Line (BPL). About one-third of the respondents have no education and about one-fifth had 10 years and more educational level.

Seventy nine percent of respondents reported having heard of any health worker (ANM and MHW/MPHW). However, only 47 percent respondents reported that any health worker visited their households in the last one month.

A very low percentage of households knew about VHSC (12 percent). The knowledge of VHSC which is a significant component of NRHM was relatively higher in some of the Non-High Focus states like Maharashtra (39 percent), followed by Kerala (26 percent). On the other hand, in the states of Jharkhand and Rajasthan less than 5 percent of the households knew about VHSC.

Among vector borne diseases malaria affects significant proportion of the households. Under NRHM, malaria prevention is encouraged through education and provision of mosquito nets. About 44 percent of the households were using mosquito net. All those who were using mosquito net, about one-fifth reported to have received from the Govt. sources. However, most of them had not treated the net with insecticides for several years. Further, about two-fifth of the households reported pregnant women slept under mosquito net during the last night and 13 percent households reported pregnant women having taken drug to prevent malaria.

Tuberculosis is one of the major diseases which afflict human population worldwide. About 3 percent of the households reported any household member suffered or currently suffering

from tuberculosis. However only one-third of tuberculosis patients were treated under Directly Observed Treatment Short-Course (DOTS). The prevalence of tuberculosis was relatively high in the state of Bihar followed by Jharkhand, while tuberculosis patients treated under DOTS was less than 20 percent in these two states.

At household level, allopathic system of medicine is generally used. More than 90 percent of respondents reported using allopathic system of medicine. Less than 10 percent of the households also use ayurvedic system of medicine. Further, 35 percent of households reported availing services from PHCs followed by 21 percent by CHCs/Rural Hospitals. However, use of private clinics was higher compared to the public facilities like District Hospitals, CHCs and PHCs.

Women's response

The median age of surveyed eligible women in all the states/UTs was 30 years and the median years of completed schooling were 3 years. Early marriage is widely practiced; over two-thirds of the eligible women nationally were married before age 18 years. About 37 percent of the surveyed eligible women gave at least one live birth during the reference period. The sex ratio of the children born to the surveyed women during the reference period between January, 2006 and survey date indicate that there were only 89 females for every 100 male births; much lower in Punjab, Haryana, Gujarat, Delhi, Rajasthan and Uttar Pradesh (72 to 84 females). Over three-fifths of the births were not registered (almost four-fifths in the High Focus Non-North Eastern states) and investigator could verify the birth certificates only in about 15 percent cases. Over half of the births nationally took place in homes (three-fifths or more in the High Focus states). About one-fifth of the home deliveries were assisted by a doctor or a health worker. Women in Madhya Pradesh, Uttar Pradesh and Uttarakhand were least likely to have received assistance during home delivery either from doctor or health workers (fewer than 12 percent) compared to those in Chhattisgarh, Jharkhand and Rajasthan (24-29 percent). Advice on post natal care was limited as nationally, as less than half of the women were advised on the same; considerably higher in Non-High Focus states (66-72 percent) than those in High Focus states (40-41 percent). A little over one-third of women received advice on the use of family planning; ranging between 28-32 percent in the High Focus states to 52-55 percent in Non-High Focus states.

The data on immunization coverage among children reveal that over 70 percent of children age 12-23 months were fully immunized (those receiving BCG, all 3 doses of DPT and Polio and Measles) and about 11 percent did not receive even a single vaccination. The coverage of full immunization was far below universal even in the Non-High Focus states as about 82-83 percent of the children in these states received all six vaccinations. The percentage of fully immunized children was lowest in High Focus Non-North Eastern states (62 percent). Further, nearly 20 percent of the children in Uttar Pradesh and 19 percent of them in Jharkhand did not receive any immunization. Further, by the time child reaches to the timing for immunization of measles, the coverage levels reduced from 96 percent for BCG to less than 75 percent for measles at the national level. It is important to note that the coverage of BCG was almost similar in all states, but, the level declined considerably for those who are immunized for measles, especially in High Focus states (Rajasthan, Madhya Pradesh and Bihar). Breastfeeding is widely practiced and does not vary across states however, not all children are breastfed immediately after birth. For example, less than half of the children, nationally, were breastfed within one hour after birth; as low as 28 percent in the High Focus Non-North Eastern states to 56 percent in the Non-High Focus states. About three-fourths of the children were exclusively breastfed up to 6 months; slightly higher in High Focus Non-North Eastern states (59 percent) compared to other states (44-54 percent).

Many women were aware of preventive ways of diarrhea and action to be taken if any member suffers from either diarrhea or fever or persistent cough. About 54-62 percent of the women reported that if anyone in their family has 'loose motions lasting for more than 24 hours' or 'high fever' and 'persistent cough and breathing problems' they were taken to the nearest government health facility. Nearly 20-29 percent of the women reported that they would give Oral Re-hydration Salt (ORS) or more fluids if a family member suffers from 'loose motions lasting for more than 24 hours' or would get blood tested for malaria if anyone has 'high fever'. However, fewer women (4-7 percent) reported that they would consult ASHA on these matters. While 81 percent of the women were aware of female sterilization, only 28 percent knew about male sterilization. In general, knowledge of spacing methods was limited except oral pill which was known to a little over three-fifths of women. However, about 36 percent and 41 percent women were aware of Intra Uterine Device (IUD) and Condom/*Nirodh* respectively. The knowledge of safe period and withdrawal was even poor as 12 percent and 5 percent, were aware of them respectively.

Similar was the case with Emergency Contraceptive Pills (ECP) as only 17 percent of the women had heard of ECP. Knowledge of spacing method was limited in High Focus states whereas it was moderate in Non-High Focus states, slightly better in Non-High Focus states (known to about 20-26 percent women). The data suggest that one-third of women reported that they would seek advice from a doctor if they had unprotected sex and another 14 percent would seek advice from ANM in such situation. However, just 17 percent of women reported that they would 'take Emergency Contraceptive Pill (ECP)' and 29 percent reported that they would 'do nothing' in such situation. The ideal mean age at first birth reported was 21 years. Majority of the women preferred birth interval of 24-36 months (reported by 44 percent) and another 38 percent reported that it should be 36 months or more.

Over half of the women had heard of HIV/AIDS. About one-sixth of women had undergone HIV testing in the past (varying from a low of 7 percent in High Focus Non-North Eastern states to 24 percent in the High Focus States). Further, 31 percent of the women did not know that one could reduce chances of getting HIV/AIDS by 'having one sexual partner' and about 51 percent did not know that 'using condom every time one has sex' reduces one's chance of getting the infection. Misconception in the means of HIV/AIDS transmission routes prevail; about 17 percent of women each believed that one can get HIV/AIDS by sharing food or hugging the person who has HIV/AIDS. One-fifth of women nationally were aware of the Integrated Counseling and Testing Centre (ICTC) and only 9 percent were aware of the Prevention of Parent to Child Transmission (PPTCT).

Over half of women (nearly 55 percent) were aware of ASHA, nearly half (49 percent) knew that ASHA provides common medicines free about two-thirds of the women, had received any service from ASHA. The level of services received from ASHA was considerably higher in the High Focus states compared to the Non-High Focus states. ASHAs seemingly have performed better in Uttar Pradesh, Orissa and Uttarakhand. About 41 percent reported that ASHA discussed with them about *Janani Suraksha Yojana* and about 35 percent discussed about institutional deliveries. Others issues discussed by ASHA was personal hygiene, water safety, ante-natal, natal and post natal care and child care. Most of the women did not know about Village Health and Sanitation Committee (VHSC) in their village. Only 8 percent were aware about it. Among those aware of VHSC, 35 percent knew that the VHSC constructed community toilets and 17 percent reported that the VHSCs organized health and nutrition days in the village and just 8 percent reported that it arranged

transport for patients. Only 13 percent of the women had participated in a Village Health and Nutrition Days (VHND) organized in their village and about half of those who participated received information on nutrition, sanitation, general cleanliness and child immunization at the last VHND they attended.

Eighteen percent of the surveyed women were aware of *Nishchay* Pregnancy Test (NPT) kit. Among those aware of the Kit, less than 7 percent knew that it was freely available in the public health facility. About three-fourth of women reported that either they or someone known to them had used the same in the past. Nearly 93 percent of the women who had used the Kit have received advice post checkup. Further, 63 percent of the women received advice for ANC check up, 9 percent for the use of family planning and 10 percent for Medical Termination of Pregnancy (MTP) post test. The state-wise data suggests that less than 10 percent of women in Bihar, Jammu and Kashmir, Madhya Pradesh, Andhra Pradesh, Haryana, Karnataka, Kerala, Punjab, Dadra and Nagar Haveli and Lakshadweep were aware about the NPT kit.

Janani Suraksha Yojana (JSY)

Over 63 percent of the surveyed women were aware of JSY scheme and majority learnt from health personnel. About 49 percent of women learnt about JSY from radio/television/newspaper. Considerably higher percentages of women in High Focus states (60-82 percent) were aware of the JSY compared to 42-46 percent in Non-High Focus states. Almost 95 percent of the women in Rajasthan and 89 percent in Bihar were aware of the scheme. A little over 23 percent of the women who had a live birth during the reference period were beneficiary under the scheme. JSY beneficiaries were highest among women from scheduled castes (29 percent) followed by other castes (24 percent) and was least among Scheduled Tribes (19 percent). Nearly 45 percent of the beneficiaries were motivated by ASHA and another 44 percent by the ANM. The *Anganwadi* worker motivated about 15 percent of the beneficiaries and family members/relatives and/or neighbors/friends motivated about 30 percent of the beneficiaries while 5 percent reported that they were self motivated. Among the High Focus Non-North Eastern states, ASHA has been the main motivator in Uttar Pradesh (82 percent), Bihar (81 percent) and Orissa (74 percent).

A little over one-third of all JSY beneficiaries (37 percent) were registered during the first trimester and another 38 percent were registered during the second trimester. At state level,

about 39-40 percent of JSY beneficiaries in High Focus states were registered during the 1st trimester as compared to 25-29 percent in the Non-High Focus states. Conversely, more JSY beneficiaries in Non-High Focus states were registered during the 3rd trimester compared to High Focus states (37-40 percent as against of 21-22 percent). Over 37 percent of the JSY beneficiaries had JSY card; slightly higher in High Focus states (41-43 percent) compared to Non-High Focus states (19-24 percent). Overwhelmingly large number of beneficiaries reported not facing any problem in getting the JSY card.

Many JSY beneficiaries received advice from the health workers during their pregnancy on number of issues; such as breastfeeding, newborn care, expected delivery date, place of delivery, delivery care, diet, date and place of next check up, place of referral for any complication, mode of transport to be used to reach the facility for delivery, the person who would accompany her to facility etc. About 13 percent of the beneficiaries delivered at homes and another about 11 percent delivered at a Trust/NGO hospital or government accredited private hospitals while others delivered in health facility. Nonetheless, over 63 percent of the JSY beneficiaries in Jharkhand and 36 percent in Chhattisgarh delivered at home while in the remaining states the share of home delivery was less than 7 percent. Further, about 33 percent of the JSY deliveries in Orissa and 60 percent in Jammu and Kashmir took place in the district hospital. About 35-38 percent of the deliveries in Madhya Pradesh, Orissa and Rajasthan and 60 percent of them in Uttar Pradesh took place in the community health centre. In Bihar, over 68 percent of JSY deliveries took place in the primary health centers. Over 8 percent of all JSY deliveries were caesarean; varying between 3 percent in High Focus Non-North Eastern states and 21 percent in the Non-High Focus larger states. About 78 percent of the deliveries were conducted in the presence of a doctor; ranging between 73 percent in High Focus Non-North Eastern states and 85 percent in the Non-High Focus larger states. Nearly 92 percent of the deliveries in Orissa took place in the presence of a doctor while their share was less than 53 percent in Madhya Pradesh and 66 percent in Bihar.

About 13 percent of women reported that no waiting time at the facility and another 53 percent had to wait for less than one hour while about one-fourth waited for 1-3 hours. The data further suggests that distance to the facility where women delivered was quite far; for over 60 percent of women, the facility was located at a distance of more than 6 kilometers and another 17 percent reported the distance to be between 4 to 6 kilometers. Among the High Focus Non-North Eastern states, considerable proportion of women in Orissa

(71 percent) and Madhya Pradesh (70 percent) reported the distance to be more than 6 kilometers while their share in Bihar was less than 35 percent. In majority of the cases, women had to use private vehicles to reach the facility for delivery (reported by about 69 percent of the women). Just 8 percent of the women used government ambulance to reach the facility. The VHSCs arranged vehicle only for 2 percent of the cases. The data further suggests that about 19-21 percent of the women in Madhya Pradesh and Uttar Pradesh reported that they used government ambulance to reach the facility. Among the Non-High Focus larger states, about 29 percent of women in Gujarat and 17 percent in Goa used government ambulance to for reach the facility.

Overwhelmingly large proportion of the women did not face any problem in reaching the facility for delivery; however, there were a few (6 percent) who faced some difficulty (mainly lack of transport facility). On the other hand, about 13 percent of the women stayed for 3 days or more in the hospital after delivery as majority were discharged either on the same day (37 percent) or within 1-2 days after delivery (50 percent). The percentage of women discharged on the same day was much higher in High Focus states (42 percent) compared to High Focus states (10-23 percent). Conversely, higher percentage of women in Non-High Focus states (32-40 percent) compared to High Focus states (5-9 percent) stayed for 3 or more days in the facility after delivery. Further, about 82 percent of the women in Bihar and 65 percent in Uttar Pradesh were discharged on the same day of the delivery. Money under JSY along with easy access to facility were the main motivating factors for the women to deliver in the institution (reported by 51 percent and 46 percent of the women, respectively). The share of women motivated by money under JSY for delivering in a health facility was reported by as many as 68 percent of the women in High Focus Non-North Eastern states (even higher in Bihar and Rajasthan 81-86 percent). In case of Non-High Focus states, it was easy access to the facility which attracted the women to go for institutional delivery (reported by 57-58 percent of women).

ASHA provided referral slip to only about 20 percent of the women. Majority of the women did not receive any help in arranging for transport. About 11 percent of women reported that ASHA helped them in arranging the transport. Nonetheless, about 18-21 percent of women in Bihar, Jharkhand, Madhya Pradesh and Uttar Pradesh reported that the ASHA in the village helped them arrange for transport to reach the facility for delivery. Most of the women were accompanied by their family member or a neighbor to the facility. About two-fifths of women reported that ASHA accompanied them to the facility and another

16 percent reported that ANM accompanied them to the facility. The percentage of women who were accompanied by ASHA was about 80 percent in Uttar Pradesh and 72-73 percent in Bihar and Orissa. Just 15 percent of the women in Rajasthan reported that ASHA accompanied them to the facility for delivery. Majority of the beneficiaries had received the incentive money under the scheme. However, there were about 8 percent of women who reportedly had not received the same by the time data was collected. Further, over 69 percent of women in High Focus Non-North Eastern states had received the incentive money by cheque (even higher in Uttar Pradesh and Madhya Pradesh-89 percent). Large proportion of the women reported that they did not face any difficulty in getting the incentive money. In most cases, the incentive money has been used either to buy medicine for the women herself or on child care.

Communitisation of services

Communitisation is an important strategy of NRHM to ensure that the programme reaches at the community level. It includes involvement of *Panchayati Raj* Institutions (PRI) formation of hospital management committee i.e. *Rogi Kalyan Samiti* and also the provision of community worker known as ASHA at the community level. The main findings are discussed below.

Village Health and Sanitation Committee (VHSC) has various problems in the functioning. The most common problem for the NRHM reported by the VHSC in the Gram Panchayats was on getting funds and the problem of implementation. On the problem related to health and sanitation in the village mosquito breeding was reported by most of the Gram Panchayats in the states and the most common disease prevalent was malaria.

Rogi Kalyan Samiti (RKS) is basically a registered society. The RKS has to generate funds and use funds to provide better quality health services. The registration of RKS is far from universal in CHCs and PHCs. All the surveyed CHCs in 18 states out of 33 states/UTs had registered RKS. The registration of RKS was 100 percent in the PHCs of 14 states. The generation of funds was also far from universal. The generation of funds was higher in CHCs than in PHCs.

Accredited Social Health Activist (ASHA)

One of the key components of NRHM was to appoint a trained community health activist called as 'ASHA' in each and every village of the country. The strategy was that ASHA

will be trained to work as an interface between community and the public health system. The ASHAs will receive performance-based incentives for promoting universal immunization, referral and escort services for Reproductive & Child Health (RCH) and other healthcare programmes, and construction of household toilets.

Age distribution of ASHA suggests that around 53 percent of surveyed ASHAs in India were in the age-group 20-30 years. Around 46 percent of ASHA were aged above 30 years and about 1 percent were aged below 20 years. Findings suggest that about 21 percent of the interviewed ASHA in had only up to seven years of schooling. Surprisingly, only 38 percent of the ASHA were educated above 10th standard. Caste/tribe distribution suggests that 21 percent and 30 percent of ASHA belonged to Scheduled Castes and Scheduled Tribes, respectively. Around 49 percent of ASHA belonged to other caste categories. Seventy-four percent of ASHA belonged to 'Hindu' religion and 5 percent belonged to 'Muslim' religion. State-wise variations in religious and social categories were marked. The distribution of surveyed ASHAs by social group and years of schooling also varied considerably across the surveyed states.

Findings clearly suggest that almost all ASHA attended at least one training programme. Except for the states of Arunachal Pradesh (89 percent), Haryana (65 percent) and Maharashtra (85 percent), any training was universal. Training in module 1 was also above 90 percent. Training in Module 2 and above was around 84 percent. State-wise variations in training in Module 2 and above were marked. Training in Module 2 and above ranged between as low as 29 percent in Arunachal Pradesh and as high as 100 percent in the states of Uttarakhand, Karnataka, Maharashtra, and West Bengal. Training in Module 2 and above was also low in Bihar; only 43 percent of the ASHAs were trained in these Modules. Interestingly, a significantly high proportion of ASHA (77 percent) were trained in using and interpreting the results of the *Nishchay* Pregnancy Test (NPT) kit. The training on NPT kit varied significantly across the different states of India. For example, 92 percent of ASHAs in Orissa were trained in NPT compared to only 47 percent of ASHAs in Haryana. *Janani Suraksha Yojana* (85 percent), Immunization including IFA/Vitamin A supplementation (84 percent), breastfeeding (70 percent), common ailments (70 percent), and personal hygiene (83 percent) were the most frequently reported topics covered in the training. Around 68 percent of ASHAs were also trained on topics related to water safety at home. Questions were also asked to ASHA about usefulness of the last training that she

attended. Around 19 percent of the ASHAs reported either training was somewhat useful or it was not useful at all.

Only 25 percent of surveyed ASHAs reported receiving special uniform. On the other hand 63 percent of surveyed ASHAs reported receiving identity card. The availability of ASHA kit with ASHA was far from universal. Only 68 percent of ASHAs had ASHA kit available with them at the time of the survey. In contrast, around 77 percent of ASHA had an NPT kit available with them. It is interesting to note that the availability of NPT kit was higher than the availability of identity card, special uniform or ASHA kit. Only 15 percent of ASHA reported that women usually conducted pregnancy test using NPT kit. In 78 percent of the cases, it was the ASHA who conducted the NPT kit. The usual follow-up measure taken after NPT was to advise women for ANC (76 percent) or family planning services (53 percent). A very striking finding of the study is that around 30 percent of ASHA reported that women were advised for MTP.

Sixty nine percent of surveyed ASHAs received incentive for JSY. The average amount received by ASHA per month was around Rs. 392/-. In contrast, only 38 percent of surveyed ASHAs received any incentive for family planning (permanent methods). The percentages of surveyed ASHAs who received any other incentives including incentive for VHND was even lower (only 25 percent in case of VHND). Only 28 percent of surveyed ASHAs reported receiving any incentive for providing DOTS. This finding points towards the possibility that ASHA are devoting more time to activities under JSY and considerably less time to other activities under NRHM. Moreover, only 50 percent of ASHA reported receiving JSY incentive by cheque.

Characteristics and functioning of ANMs

About 95 percent of ANMs had 10 and more years of education, as prescribed by the government for such position. Some of the states where a sizeable proportion of ANMs are without the minimum education are Nagaland (31 percent), Sikkim (21 percent), Jammu & Kashmir (14 percent), Mizoram (12 percent) and Orissa (10 percent).

Three-fifths of ANMs have been working at the same health centre for over five years. ANMs working for longer duration at the same HSC were more in Chhattisgarh, Madhya Pradesh, Uttar Pradesh, Karnataka, Tamil Nadu, Maharashtra and Punjab (above 70 percent).

Less than three-fifths of ANMs (55 percent) stayed in official residence but none reported in Jammu & Kashmir and Goa. The proportion of ANMs residing in official residence is higher in the High Focus Non-North East states (61 percent), compared to Non-High Focus states (52 percent); much higher (above 80 percent) in Orissa and Chhattisgarh (89 percent) and Maharashtra (84 percent).

Interestingly, not many ANMs stayed in the HSC village (31 percent), even in Non-Focus states (27 percent). States in which substantial proportion of ANMs reported staying in Health Sub-Centre village are Mizoram (80 percent), Maharashtra (70 percent), and Nagaland (63 percent).

Nearly two-thirds of ANMs do not have any modes of transport at their disposal. Only about 12 percent ANM reported using the subsidized moped given to them. Besides, very few ANMs (10 percent) have mobile phones with them.

Not many ANMs received or undergone training under NRHM such as Integrated Management of Neonatal and Child Infections (IMNCI), Skilled Birth Attendant (SBA), IUD insertion/removal and RTIs/STIs in the past four years, i.e. since 2005.

A little over half of ANMs (54 percent) received training on IUD insertion or removal but lesser proportions trained in other programmes. For instance, less than one-third of ANMs were trained in skilled birth attendance (31 percent), 34 percent on IMNCI, and 36 percent on syndromic treatment of STIs. A higher proportion of ANMs in the High Focus Non-North East states have been trained in insertion/removal of IUD 380A (63 percent) and skilled birth attendance (34 percent).

Despite most ANMs (92 percent) reported conducting 3 ANC visits, about three-fifths registered all pregnancies. Lesser proportion of ANMs (64 percent) advised mothers for next visit and 62 percent could fill immunization cards correctly. ANMs in the High Focus states are lagging behind those in Non-High Focus states in most respect.

Despite being a routine task, nearly two-fifths of ANMs did not fill the cards correctly. The problem of incorrectly filling immunization cards by ANMs has been more acute in High-Focus North East states (47 percent) than any other region.

Generally, performances of ANMs correlate with their educational level, duration of service, and staying in official residence. For instance, as educational level increases, more ANMs registered all pregnancies (45 percent registration among those with less than

10 years of education compared to 61 percent among those with 10 or more years). Besides, execution of at least 3 ANC visits, advising mother for next visit and filling immunization cards correctly also are higher among the more educated ANMs.

Similarly, ANMs with more than 5 years of service and those staying in official residence performed much better in their duties than those who had less years of service or staying in HSC villages.

Untied fund/grant: its utilisation and implementation

About 82 percent of ANMs reported receiving untied fund during 2007-08 but only 43 percent reported its expenditure. Interestingly, more ANMs in the Non-High Focus states (90 percent) reported receiving untied fund compared the High Focus states (85 percent in North East states and 79 percent in the High Focus Non-North East states). Among the states, report of receiving untied fund was lowest in two of the High Focus states, namely Arunachal Pradesh (12 percent) and Bihar (15 percent). In four states, all ANMs reported receiving untied fund, viz. Sikkim, Tripura, Orissa, and Tamil Nadu.

Overall, only 38 percent of ANMs in High Focus Non-North East states, 40 percent in North East states and 53 percent in Non-High Focus states reported expenditure of untied fund. Untied fund was spent mostly for purchase of drugs (39 percent), arranging transport (25 percent), and arranging facilities for patients at the HSCs (25 percent). In the North East states, a larger share of expenditure was on purchase of drugs (52 percent) compared to 28 percent in High Focus Non-North East states and 50 percent in Non-High Focus states. Use of untied fund for payment for power/telephone bills accounted for 15 percent of the total expenditure.

Only a quarter of ANMs reported facing no difficulty in operating and utilization of the untied fund, but a higher 68 percent in Tamil Nadu and 66 percent in Rajasthan. Three-fourths of ANMs who faced difficulty, the major difficulty mentioned was non-availability of Sarpanch when needed (25 percent), followed by no mutual agreement regarding ways to spend money (17 percent) and getting the fund (16 percent).

To overcome difficulties in the utilization of funds or implementation of the programmes, most ANMs suggested direct control over funds, more funds for maintenance/effective functioning, and also more training for ASHAs.

Physical infrastructure, human resources and service outcome at facility levels

Overall, most of the infrastructure was available in majority of the district hospitals (DH). The availability of infrastructure at the surveyed CHCs and PHCs was inadequate in all the states. Most (86 percent) of the surveyed PHCs were functioning from government building, but only 37 percent PHCs had piped water supply and 76 percent of the PHCs had electricity connection in all parts. All the surveyed DHs were having medical and para-medical staff but the availability of human resources was inadequate in all the surveyed DHs. Overall situation in DH was fairly satisfactory in case of Gynecologist/Obstetrician, Paediatrician, Anesthetist, Surgery specialist and other specialists; with at least three out of four DHs were having such specialists. Availability of medical staff and para-medical staff was low in the CHCs. Eight out of ten surveyed PHCs in India were having male medical officer, nearly 3 out of 10 surveyed PHCs were having female medical officer and 3 out of 10 surveyed PHCs were having AYUSH medical officer. The medical and para-medical staff in majority of health facilities had not received adequate training. The training of human resources at PHCs was inadequate. Less than 20 percent of PHCs were having medical staff trained in Anesthesia, Minilaprotomy, NSV, BEMOC, MTP, New Born Care, RTI/STI and IMNCI.

On an average 214 JSY cases were registered, 264 pregnant women were given 3 ANC, 24 pregnant women were identified and attended for obstetric complications, 229 deliveries including 45 caesarean sections were conducted in surveyed DHs per month. The average bed occupancy rate at surveyed CHCs was 42 percent and daily OPD attendance was 92 persons. The average monthly deliveries conducted at CHC were 60 and average JSY deliveries conducted were 50 in India. Most of the CHCs were maintaining hospital records. On an average 51 pregnant women were registered for ANC, 27 deliveries and 19 JSY deliveries were conducted in surveyed PHCs compared to 13 sterilization cases per month.

Nearly three-fifths of the sampled HSCs (58 percent) are functioning in government building, ranging from 15 percent in Andhra Pradesh to 98 percent in Mizoram. Over all, in 10 states, less than half of the HSCs are functioning in government building - mostly in High Focus states.

Less than half of HSCs (42 percent) have residential facility for staff members. States in which most HSCs have no residential facility are Jammu & Kashmir, Arunachal Pradesh, Manipur, Nagaland, and West Bengal (over 90 percent).

Many HSCs fare poorly in terms of communication amenities (telephone and transport) and other facility such as electricity, water supply, toilet, and cold chain equipments. Majority of HSCs have cold chain equipment (76 percent), followed by toilet facility (57 percent) and transport facility available at night (55 percent). Less than a quarter of HSCs (24 percent) have regular water supply and about 28 percent only have piped water supply. Toilet facility and water supply are found to be worst in High Focus Non-North East states, mainly in Bihar and Jharkhand.

Use of electricity for lighting is not common in many HSCs in the country, particularly in the bigger High Focus Non-North East states such as Jharkhand (8 percent), Bihar (10 percent), Jammu & Kashmir and Uttar Pradesh (15 percent). Among the North East states also, most HSCs have no electricity connection (47 percent), particularly in like Arunachal Pradesh (9 percent), Assam (16 percent) and Tripura (23 percent).

Despite over half of the HSCs surveyed reported transport facility available at night, the situation is deplorable in the North East states with only 15 percent of HSCs having such facility. Interestingly, among the bigger High Focus, all the HSCs in Bihar have this facility, followed by Rajasthan (82 percent) and Chhattisgarh (72 percent).

In 11 states, most of the HSCs have no telephone or available in less than 20 percent of the HSCs. In contrast, states in which telephone is more likely to be found at the HSCs are Rajasthan (85 percent), Tamil Nadu and Chhattisgarh (71 percent).

Nearly all the HSCs (97 percent) have auxiliary nurse-midwife but in less than half of HSCs (45 percent) a multipurpose (male) health worker (MHW) or other staff (25 percent) was available. Clearly, shortage of staff is not confined only to High-Focus states but also observed in Non-High Focus states like Andhra Pradesh, Karnataka, and West Bengal, among others.

Only 28 percent of HSCs were equipped with delivery facilities such as a separate labour room. Less than half of the HSCs (47 percent) have a separate clinic rooms and separate examination room (43 percent). Among the High Focus states, HSCs having separate labour room ranges from 4 percent in Bihar and Tripura to 91 percent in Sikkim, followed by Mizoram (60 percent), Chhattisgarh (46 percent). Less than one-third of the HSCs do not have a separate examination room in states such as Bihar, Orissa, Tripura, Andhra Pradesh, Punjab, Jharkhand, and Uttarakhand.

The survey also found that in most of the HSCs there was no arrangement available for emergency deliveries, particularly at night (between 8PM to 8AM). Only 16 percent of the HSCs have arrangement for deliveries at night and referred to higher facility

About 8 in 10 HSCs reported carrying out village health and nutrition day (VHND), but just about a quarter of HSCs in Lakshadweep and 27 percent in Nagaland against all HSCs in Assam, Goa, and Chandigarh.

On an average, a HSC registered about nine (9) ANC cases in a month and most of the cases were registered within first trimester of pregnancy. The number of ANC registered in a month ranges from 2 cases in Nagaland to 18 cases in Bihar.

The ANC cases registered within the first trimester of pregnancy ranged from 3 cases in North East states to 7 cases in the High Focus Non-North East states; highest with 11 cases in Bihar, followed by Madhya Pradesh with 9 cases. ANCs cases less likely to be registered during the first trimester are in Andaman & Nicobar Islands, Sikkim, Jammu & Kashmir, and Lakshadweep (less than 2 cases).

A similar pattern is observed in case of JSY registration also. On an average 5 JSY cases are registered in a month by a HSC and more cases registered in the High Focus Non-North East states (7 cases on average compared to 3 cases in the Non-High Focus states and 2 cases in the North East states).

Client's response to NRHM

Clients, both in-patients and out-patients who have availed health services, were asked about their satisfaction and quality of care provided in the government health institutions. About two-fifth of both in-patients and out-patients belonged to SCs and STs. The share of BPL was 46 percent among in-patients compared to 42 percent among out-patients.

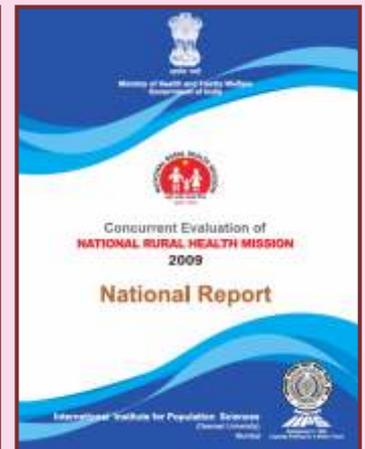
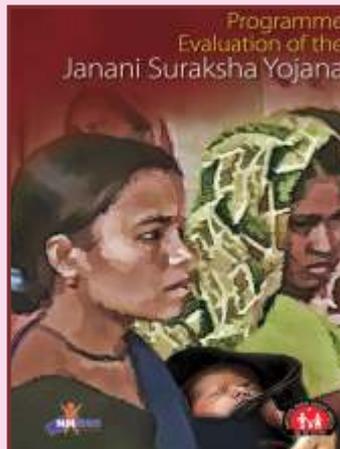
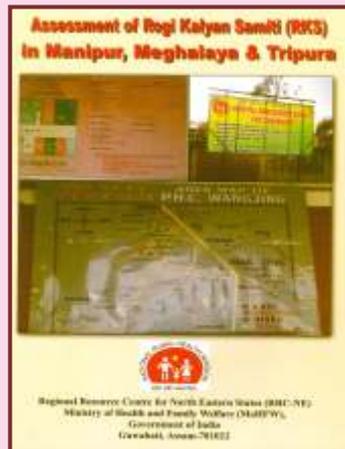
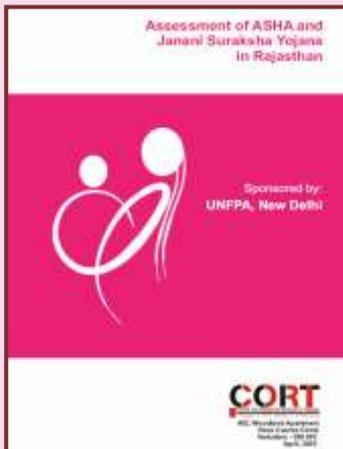
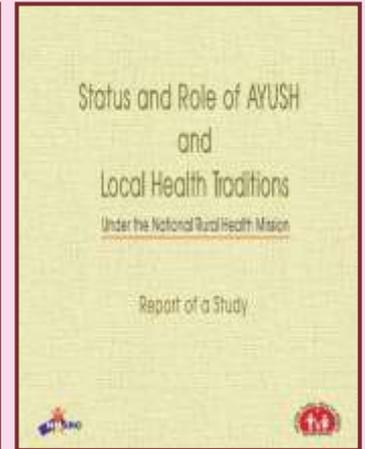
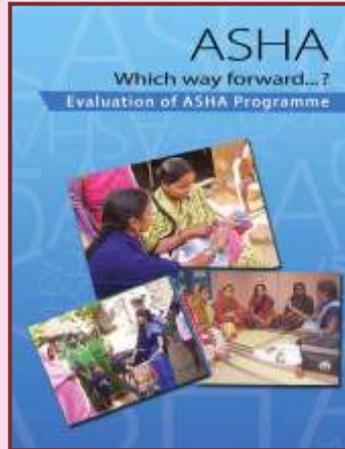
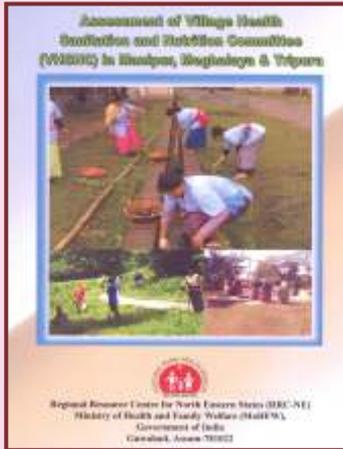
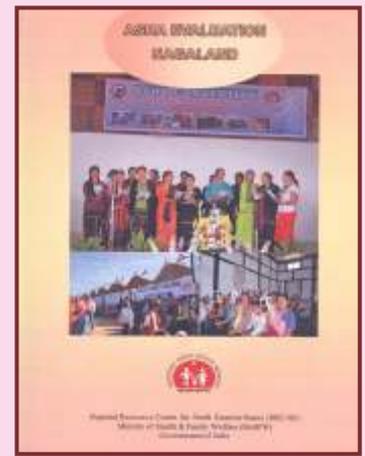
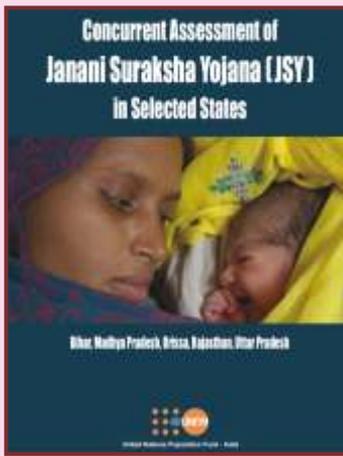
The in-patients reported good behavior of the doctor was highest in the District Hospital (55 percent) followed by CHCs (31 percent) and PHCs (13 percent), whereas there was no significant variations in the reporting of good behavior by the hierarchy of health facilities in case of out-patients. Patients were also asked about their satisfaction of availing services from health facilities. Eighty one percent of the in-patients and 79 percent of the out-patients reported fully satisfied with the services.

A substantial percentage of patients have used public transport to reach the health facility. About 44 percent of the in-patients and 37 percent of the out-patients have used public transport to reach the health facility. About 46 percent of the out-patients came to the health facility by foot. The pattern of the mode of transport used is more or less same at the state level.

Availability of various facilities and services is a good indicator of quality of health services. For example, about 79 percent in-patients had reported the availability of pathology/laboratory services available at the health institution followed by reporting of X-ray services by about 62 percent of the in-patients. Twenty eight percent of the inpatients reported telephone service available followed by 26 percent reported canteen available in the health institutions where they have been admitted. The pathology/laboratory services were least available in Bihar (35 percent). On the other hand, in Lakshadweep 100 percent reported availability of pathology/laboratory services followed by Daman and Diu (97 percent) and Puducherry (94 percent).

A higher percentage of in-patients (56 percent) availed services from district hospitals compared to out-patients (33 percent). For out-patients, the load was shared equally among the various categories of health facilities like PHC, CHC/Rural Hospital and District/sub-divisional Hospital.

Studies on NRHM



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