Introduction

In consonance to the basic premise of the Constitution, where Health has been referred as a State subject; the State in order to translate its intention into action felt a bit constrained on account of strengthening the then existing Health care infrastructure where access to health services to a large populace has been a point of concern, but for funds.

A long consultative process, and finally World Bank pitched in leading to grounding of Rajasthan Health Systems Development Project in July 2004 underwriting the efforts of Sate to improve effectiveness and quality of the health care delivery system through strengthening of secondary level health institutions in the State with a focus to serve the poor and underserved population.

Project Rationale & Objectives:

Referring to "Health" inherent to "HFA 2000" with accessibility, acceptability, affordability, and appropriateness of health care delivery through equitable distribution; drawing context from the situational analysis that identified poor access, unacceptable Quality, poor performance parameters & Health Indicators, incoherent & isolated efforts, managerial incompetence, indifference to initiatives, refrained attitude towards reforms, compartmentalized approach, Perennial problem of provisioning, lack of Human resource, weak implementation structure, nonexistent referral system, infrequent monitoring and ad hoc evaluation and ilk as major punctuations in effective delivery and justified use of scarce resources; the project pledged itself to generic objectives with specified sub-objectives to ensure that initial inputs shall help system to realize its strength, build on it and sustain it subsequently with all efforts and interventions dovetailed with the main stream.

With Primary Care approach at the core (tertiary sector often squeezes its share, come what may; and a large private sector already waiting to exploit Out of pocket paying capacity of people), the Secondary care was often left as orphan without realizing that it stands as a strong referral link. This is where the Health system Development project, aptly pitched in to ensure strong linkages between Primary and Tertiary care.

The **broad objectives** of the project were:

1. To enhance the effectiveness and quality of health services at primary & secondary levels through policy and institutional development.
2. To increase access to and equity in health care service delivery with particular focus to the underserved sections.

Project Period:

The project was planned for a period of five years (July 2004 to September 09) and subsequently had a performance driven extension till September 2011.

Functional Hierarchy:

For operational ease a formal structure was created under the project with each unit having sufficient autonomy still interrelated for synthesized efforts between SPC, EPMC, QI, FM, HR,CAEI and Civil wing; apropos to the project objectives. The project was headed by a senior Civil servant besides the advisory committee to provide required impetus and initiative.

Besides the State Unit, District units were created and strengthened to coordinate with District Health Societies to have the interventions implemented.

Project components:

The project had three main components.

Component 1: Policy Development and Project Management

Component 2: Improving Quality and Efficiency of Public Health Care Services at the Primary and Secondary Level

Component 3: Improving Access to Health Care Services for Poor Populations

Project approach:

A time bound project matrix was rolled out with identified components and sub components that had objectively verifiable indicators to frequently put the performance on a scale keeping in view the capacity and digestibility of the existing system.

Further, a policy matrix as a commitment from the State was developed with key thrust areas, Major issues, and proposed change or action required for change. The major Thrust areas agreed were: Resource allocation, Strategic Planning, Quality. Access & Equity, HR O & M, PPP, User charges, Gender sensitivity and reach to Marginalized populace. The existing strengths and weaknesses of the system were analyzed and existing opportunities identified to translate threat and weakness into strength. For this the activities, level of activities and key actors with defined deliverables were specified in the policy matrix itself.

Component 1: Policy development and Project Management

Sub component 1.1: Improving the Institutional Framework for policy development

Strategic Planning Cell was established in 2004 for strengthening strategic planning capacity. Consultative workshop to initiate the government activities to design and implement public-private contract mechanisms was conducted in the first year of the project. The Cell had to carry out a “Private sector summary profile” study to fill in information gaps regarding private providers’, this was combined with ‘Diagnostics” to determine potential for PPP in the state of Rajasthan’ study. The dissemination workshop on the findings of these studies was done in the first year.

The major stakeholders were taken for a study tour to the different Health Systems Development Projects of Southern India.

Vital to the project amongst all was the State Planning Cell (SPC) which has made significant dent reflected in different operational research for the evidence based planning, and implementation of interventions:

a. Diagnostic assessment of role of private providers in health sector
b. Quality and utilization of civil works
c. Patient Satisfaction survey – Baseline, Mid-term and End-term
d. Baseline medical equipment management and maintenance system feasibility study
e. Mid line equipment use, maintenance and management study
f. Impact Evaluation of HCWM implementation
g. Impact Evaluation of tribal health care delivery strategy
h. Data Validation study
i. Assessment of access and equity of healthcare services for vulnerable groups
j. Training assessment
k. Assessment of Hospital Systems Improvement Program

As a sensitization tool, a total of 255 workshops covering diverse areas, were held under the project at various levels (Annexure 1).

Under the sub component, private sector was expected to be roped in for delivery of services at secondary level. Somehow the efforts made under the project and intent of private sector could not be effectively dovetailed for various reasons. The only policy to promote private sector in Health care delivery adopted in 2006 could not attract many big players but for few that too in Medical education and Tertiary care. The regulatory framework for private sector also turned out to be a fiasco.

SPC in an outrage subscribed to certain areas which were beyond their capacity (e.g. standards and norms for staffing) control.

Sub component 1.2: Strengthening management and implementation capacity: Project management structure

To implement the proposed project strategy, a four tier Project Management Structure was established in 2004.

First tier – State Empowerment Committee

Second Tier – Project Steering Committee

Third Tier – Project Implementation Unit which further included

- Strategic Planning Cell
- Equipment Procurement and Maintenance Cell
- Engineering (Civil Works) Cell
- Financial Management Cell
- Quality and Systems Improvement Cell
- Human Resources cell
- Community Access and Equity Initiatives Cell

Fourth Tier – District Project Coordination and Monitoring Committee

The work suffered due to vacant positions (consultant biomedical engineer, consultant health care waste management, and consultants for studies/workshops and quality improvement initiatives) for some duration.

Sub component 1.3: Strengthening Human Resource: Training & Capacity Building

The HR cell did laudable work in the area of training and capacity building intended to improve the quality and effectiveness of hospital services focused on updating the clinical, managerial and behavioral skills of health staff.

Training Institutions: Project opted for development and strengthening of trainings institutions at different levels but the shuffled priorities had a marginal impact in this area resulting in outsourcing. It was only after SIHFW asserted from June 2008 onwards that majority of Managerial trainings had uniformity of content and quality barged in.

Training modules were developed in consultation with various agencies at State / National level for Clinical/ Managerial trainings, Referral System, Managerial, Quality Improvement, Hospital Waste Management, Equipment Maintenance/Repair, Behavior Change Communication, Rational Use of Drugs, Geriatric Care, Disaster Management and Medical Jurisprudence (Annexure 2).

Capacity building program 21 types of trainings were designed for medical and paramedical staff. A total of 57615 staff members from different cadres were addressed during the entire project period. Four new types of trainings were also imparted – Geriatric Care, Medical Jurisprudence, Disaster Management and Disability Management.

Besides, three distance learning courses were also financed under the project-

a. Diploma Course in Hospital Management at NIHFW;
b. PG diploma Course in Health & Family Welfare Management at NIHFW; and
c. Diploma in Health Care Waste Management in collaboration with IGNOU.

Monitoring and Evaluation of training programs: Benchmarks indicators for measuring performance were developed to facilitate monitoring. This was carried out by periodic evaluation/assessment of the quality and, impact evaluation of training programs was undertaken for each of the training to assess the effectiveness of the training program.

A mid-term evaluation of training programs was to be done but somehow not taken up.

The end-term evaluation for various training program was conducted by SIHFW and report is to be submitted by Sep.29, 2011.

Though concerted efforts were made to ensure that training plan is in sync with schedule, still it swerved at times for reasons beyond the control of project. To put it straight, some of the reasons that asked for digression were- Seasonal or unwarranted disease incidence, campaigns, Medical Colleges too busy, reluctance on part of trainees to attend the training, and district authorities not reliving the nominated staff for training programs on one or the other pretext.

Corrective action-

To ensure that trainees after nomination attend, certain actions including recovery of unit cost of trainings from absentees were initiated. Further, the training institutions were strengthened and SIHFW was made the nodal agency for all the trainings across the state which led to substantial improvement in content & quality of trainings. These were also monitored regularly by RHSDP and involvement of Program officer as trainers was ensured.

Sub component 1.4: Strengthening health management information system

Data translated into information, is an essential ingredient for planning so that information can be translated to inference for making evidence based intelligence driven decisions. Somehow, Information and Data are always ceded ritually by Health professionals.

The project strived hard to strengthen the existing HMIS at DM&HS and the information generated at different levels of facilities was compiled through DPCs and sent to the PIU. The QSI Cell was established at PIU in the first year.

In view of the on the existing HMIS, and proposed IT Strategy; Raj. Comp, was consulted to develop a strategic planning for the long term information requirements of the sector, and recommend architectural corrections in the technology, long-term system implementation, equipment required and capacity building plans.

Hospital based Statistics: A base line statistical data base was created for the project facilities in the year 2005 so that the subsequent progress and performance against select indicators can be put to a scale through M&E component of the project. A dissemination workshop was conducted to share the findings and formats.

A new format (Hospital Activity Format) was introduced, where information of existing three formats were dovetailed (Hospital based statistics, Referral format and Vital Drugs format), besides including monthly information generated on Vertical Health Programs. This along with Personnel Information System was incorporated in State's HEALING Software.

Training of personnel on reporting of Hospital Statistics: To ensure the accuracy, completeness, and timeliness of data collected, Q.I cell of the project imparted trainings to Data Entry Operators (48) of the six identified priority districts (Bharatpur, Chittorgarh, Dungarpur, Jhalawar, Jodhpur and Tonk).

Hardware related to the implementation of HMIS was procured for facilities.

Reporting on Availability of Essential Drugs: The **Stock position** of 15 essential drugs for reporting across project facilities during the month was included and was incorporated in the hospital activity format.

Monitoring & Evaluation (M&E): DPCs share the hospital performance in the HSIC meetings at the district level so that parameters requiring improvement are addressed regularly on priority. With time these detailed and regular feedbacks lead to an increase in reporting by institutions and the submissions of completed records as per the decided timeline (15th of each month).

A study on validation of data was also conducted.

The often neglected feedback mechanism was strengthened, with feedback provided by the end of each month to the Medical Officer-Incharge by the respective DPCs and sharing it with all members of the HSIC (which includes respective MO I/Cs) during the monthly meeting at the district level. Data compiled and analyzed were used for observing trends in time and space for improvement in performance of institutions.

Arogya Online HMIS Software: The software was initiated through DoIT and RajCOMP to automate the Hospitals in the state to improve the patient care. The software is presently implemented in 15 district hospitals. RHSDP has supported procurement of hardware, server room readiness and LAN at 9 district hospitals. It is a unique combination of a 'patient centric and medical staff centric' paradigm.

The software provides - a unique ID number to each patient which would be valid across the State and an accurate, electronically stored medical record of the patient. The application gathers process, and retrieves patient care and administrative information on real time basis. Through this software the investigation reports of the patients will be available on internet.

Component 2: Improving service quality and effectiveness at primary and secondary levels

This component enhanced the capacity of health facilities to provide quality health care by refurbishing existing facilities, upgrading effectiveness of services, improving referral system and strengthening community capacity to demand and use appropriate services.

Sub component 2.1: Extending/Renovating Facilities under the Project

Under phase I 239 (Including creation of PIU) facilities were identified for up-gradation, renovation, addition and alteration so that besides improving aesthetics the facilities are functional. This included seepage correction, water proofing, flooring, painting of walls, refurbishing of toilets, electricity, water supply & sewerage system, surface drainage, repair of campus road, boundary wall, gates etc.

The quality testing of the civil works was done by MNIT, Jaipur.

Apart from renovating, the PIU building and five new CHC (Sahjahanpur, Kapasan, Malpura, Merta City, Sultanpur) were constructed. The construction was completed in 233 facilities while at six of the facilities (Navalgadh, Ravatbhata, Bengu, Piparali, Laxmangadh & Balesar) it was deferred for reasons beyond control. The completed works have made the facilities a little more functional and have been appreciated by Medical officers (documented in a separate study by SIHFW).

Slow disbursement of funds led slower pace of civil works.

In the extended phase, trauma centers, ICU, burn unit & rehabilitation centers were constructed. Out of the targeted 63, fifty nine have been completed and work is in progress in four facilities.

The engineering cell had the responsibility to manage the contracting out of design and construction of civil works to private sector architects/consultants and contractors and to check, coordinate and supervise their work.

A study on End term Quality and utilization of Civil Works and Equipment provided by the project has been done.

Equipment Management and Maintenance Workshop: Establishment of a Zonal level medical equipment management and maintenance workshop was a key activity during the extension phase. RHSDP had envisaged the establishment of Health Equipment and Repair Unit in Jaipur zone on a pilot basis at Mini Swasthya Bhawan, Sethi Colony Jaipur; building for the same has already been constructed. The medical equipment management and maintenance workshop was proposed on an outsourced model; subsequently deferred and now project would be taken up under the aegis of RMSC for which fund of Rs 50 lacs have already been allocated in PIP for the year 2011-2012 in NRHM.

Establishment of Drug Logistics and Drug Warehouse: To ensure the availability of the drugs with assured quantity at all levels the drugs and warehouse management system was introduced in the state by RHSDP. RHSDP took up the procurement of hardware, computers, racks and other handling equipment, while NRHM had taken over the aspects of repair/ renovation of 24 existing drug warehouses, five New Drug ware house construction, software development, recruitment of pharmacists & other personnel, Drug warehouse maintenance etc. For implementation of the logistical drugs and warehouse management system, one additional module for drug warehouse has been developed by CDAC as part of AROGYA ONLINE HMIS Software. Orientation cum hands-on computer training has been imparted by Government of India officials on “effective implementation of Procurement Management Information System (PROMIS)” for all GOI supplies.

Sub component 2.2: Improving Health Care Waste Management System

The hospital waste management activities were looked after by Quality and Systems Improvement Cell.

The District Hospital Waste Management Committees were formed and Hospital Waste Management Committees and Hospital Waste Management Teams at facility levels were also formed but these were later merged with HSIC at district level and HSIT at facility level.

Workshops were conducted at all the levels to generate awareness on the subject in the first year of the project. Development of Standard Operating Procedures (SOP), Guidelines, Protocols and Formats for HCWM practices was undertaken. A consultative workshop was conducted at the State level for development and finalization of the same in the second year.

The forming of HCWM committees was undertaken by DPCs at the facilities in second year.

Trainings: HCWM trainings focused on hands-on training of the staff of facilities at their door step was designed. A ToT to train two persons from each district including all DPCs (32) under the project in the first year was conducted.

In the second year trainings were initiated in a phased manner. In phase I, 40 facilities (out of 343) with 100 bed strength and above were selected for the hands-on training to complete staff. These trainings were given by the agency “Parirakshana”. In phase II remaining facilities with bed compliment of 30 & 50 were covered. Training programs were extended to all CHCs and also included PHCs in the third year. Redesigning of on-site training package was taken up in fourth year. Coordination with NRHM was done to monitor training activities. The retraining at CHCs was completed and PKG 02 at PHCs were initiated in

the sixth year and in the seventh year initiation of PKG 03 was done. The PKG 02 & 03 trainings were provided by Centre for Environment Education (CEE).

Procurement: Detailed specifications for each item (bags, disposal bins & sharps disinfection bins) were drawn by a team of experts. Accordingly, the procurement cell of the project followed National Shopping method and completed procurement and supplied to the facilities. A need based assessment of the procurement of hospital supplies was done in the second year. Introduction of green bags and bins and PPTC for blue bins was done in sixth year.

Civil works: The design and drawings of civil works for storage and disposal of the Bio Medical Waste / Health Care Waste was finalized by the Civil Cell of the project, and the construction work was initiated by DPCs in the first year through PWD. The civil works were completed in the second year. In the fourth year additional civil works were undertaken. Design and cost estimates were done for PHCs.

Monitoring: Short term consultant was appointed. The DPC in the districts carried regular monitoring of the trainings and the HCWM procedures being followed at the facilities. Fusion of HCWM meetings in the HSIP helped in regular monitoring of HCWM related ongoing activities.

Authorization: This process was initiated in the CHCs in the second year and decision on getting Common Treatment Facility (CTF) services and payment of user charges was done. CTF services extended to all 10 service providers in the third year. It was followed by the services of CTF operators for one time cleaning of burial pits in the following year. To review CTF operations a district level monitoring team was constituted. In the extended phase of the project initiation of authorization process for all PHCs and dispensaries and improvement in CTF connectivity and regularity of CTF services was undertaken. Focus on intradepartmental coordination with the officials of DMHS and other stakeholders were done for authorization process.

IEC: The IEC developed by Centre for Environment Education (CEE) a GoI undertaking were procured and supplied to all 343 facilities. Training kits were disseminated amongst the user hospitals, 250 such kits including audio and audio visual presentations (in 2 CDs) were part of this training kit. A booklet covering related aspects of information was published and disseminated in the *Swasthya Sammelan* held at Jaipur in Aug-2006. This booklet is now being used as reference material. Strengthening of IEC was done in form of developing Audio Visual film on HCWM practices, and color coded flexi sheets in the second year by RHSDP itself.

Mid-term evaluation was done by SIHFW in the fifth year, the finding and recommendations were shared with all stakeholders. No end-term evaluation was done but instead a report which documented good practices and lessons learnt over the 6 year period of implementation was prepared.

To share the progress made in the field, a State level workshop was conducted in the third year and a **National workshop of HCWM** for experience sharing in collaboration with SIHFW, Rajasthan was organized on May 12-13, 2011.

End term Common Treatment facility Audit has also been undertaken.

Sub component 2.3: Upgrading quality and effectiveness of clinical, management and support services

Service and STGs were developed indicating treatment of particular disease at different levels of facilities. Equipment Procurement and Maintenance Cell looked after the procurement of equipments and other goods and managed their maintenance in consultation with SPC. They were also responsible for preparing procurement plans and finalization of bids.

- During the first phase of the project (2004-2009) 238 health facilities were strengthened by providing medicines, hospital supplies, equipments and furniture.
- Under 'one time repair' work old equipment (major and minor) and furniture items were repaired at the selected facilities which were put to use for patient care.
- During first to third year of the project, procurement activities National Competitive Bidding (NCB) and International Competitive Bidding (ICB) were outsourced to procurement support agencies like Hindustan Latex Limited (HLL) and Hospital Services consultancy Corporation (HSCC). In-house procurement was initiated, after capacity building of the procurement cell, from third year onwards.
- Training related to the management and maintenance of equipment was done.
- During second to fifth year of the project, the inspecting agency was Central Scientific Instruments Organization (CSIO), a GOI undertaking, whereas during the extension phase Rail India Technical and Economic Services Limited (RITES) was the inspecting agency.
- Some types of equipments that were supplied during the project period were: Lab equipments, Electro medical equipments, Imaging (X rays), Pneumatic equipments etc.
- A baseline and mid-term evaluation of equipment use, management and maintenance was conducted.

The procurement process was held up for different reasons over the period as delays in bid evaluation; signing of the awarded contract and non finalization of revised technical specifications besides objections on projected value of the services. Another reason for delay was lack of knowledge of and familiarity with Bank guidelines.

Medicines and hospital supplies: The Standard Treatment Guidelines (STG) for common diseases was developed, printed and distributed as well as Essential Drugs List (EDL). Training of RUD was given to doctors and nursing staff.

Workshop on STG was conducted at the state level while Workshop on revision of EDL based on STGs were conducted at the district level and so was Dissemination Workshop for STGs. Workshop for developing procurement of drugs/supplies systems was held at SIHFW.

A single study included three studies on assessment of availability and use of medicines, procurement systems of drugs and hospital supplies and reviewing access to medicines and hospital supplies system. No mid-term and end term evaluation was carried out.

Hospital Systems Improvement Process: With the aim of institutionalizing the mechanism of performance and quality improvement, the Hospital Systems Improvement Teams (HSIT) was constituted in all 238 secondary level project facilities initiating in 2006. Similarly, HSICs at the district level (with CMHO as chairperson) and HSRT at the state level under chairmanship of PHS were formed.

DPCs were given one-time training to facilitate the process. The Quality Improvement/HSIT trainings were imparted.

The HSIT meetings were supposed to be held once a month but after the initial enthusiasm the regularity has not been maintained by some facilities.

Consumer feedback and complaint re-dressal (CF&CR) was implemented in five districts on pilot basis under Hospital Systems Improvement Process for quality improvement. An assessment of HSIP and CF&CR is being conducted by SIHFW.

Sub component 2.4: Improving referral mechanisms and linkages with primary and tertiary levels

For services delivered in a comprehensive manner an effective referral system was introduced with the belief that strengthening of secondary level hospitals would raise credibility of the primary health care system. Referral at appropriate institution would reduce the gap between illness and seeking treatment and out-of-pocket expenditure.

The procedural activities taken in the direction of strengthening of the “referral system” were:

1. State level Workshop conducted for finalizing referral protocols, referral and feedback cards.
2. District level workshops for sensitization of service providers to the proposed referral system.
3. Development and supply of Referral Registers, Cards (Referral and Feedback) backed by the procedural directives to all levels of institutions to implement referral system.
4. Dissemination of Referral Protocols and Guidelines.
5. The Referral Card developed has general as well as clinical information of the patient.
6. The District Referral Committees were established but later merged with HSIC.
7. Referral Trainings to medical and para-medical personnel by SIHFW to sensitize them to the referral protocols and norms. 1246 trainings have been completed as against proposed 1136.
8. Analysis of Referrals has been done in 49 facilities of the 6 priority districts in the month of May 07 and also time to time.
9. For effective monitoring, DPCs / other project officials have been directed to monitor the referral record maintenance and implementation at the facilities.
10. Dissemination of the information to the community about the referral system through IEC-
    a. Hoardings (at all 343 secondary level institutions)
    b. Bus panels
    c. Talk shows
    d. Documentary
    e. IEC in the health camps in the desert and tribal districts and in Swasthya Chetna Yatra.

Component 3: Enhancing health care access and equity for underserved populations

The component contributed to the reduction of geographical and financial barriers to health care through refurbishing selected facilities in underserved and tribal areas; fostering public private partnership; developing and conducting pilot innovations on topics which enhanced access to health care.

Sub component 3.1: Improving health seeking behavior in community

The third component was catered by Community Access and Equity Initiatives Cell which had the aim of improving of health seeking behavior of community and improving access to health care by poor and tribal population to government health facilities. The designing of IEC material was outsourced and a dissemination workshop for IEC Strategy was conducted. A workshop on developing IEC material was also held. Major IEC material developed (both in-house and outsourced) included:

1. Print material – Posters and booklets (eg. Social Security Scheme), Flip book (key health issues) have been printed and distributed to the districts
2. Film shows and TV spots – educational films produced and telecast: "*Kaho Kamla"* and "*Kahiye Kanuram"* on referral system and BPL card scheme.
3. Documentary and short films on key interventions like HCWM, Civil, and Procurement etc. have been made.
4. Animation on MMJRK, patient counselor and HCWM.
5. Jingles – Radio jingles developed on priority issues.

These were disseminated through - Hoardings and signboards – Display various health messages and services available; scroller – placement at various facilities under process; signage and symbols – installed in all 238 facilities; and local Media Activities – Folk based media activities organized to spread awareness. A media agency was contracted out for the task of mass dissemination of electronic materials.

Workshop to sensitize NGOs and PRIs were held on zonal and district level.

Awareness campaigns –

   a. Village Contact Drive piloted in tribal districts carrying out door to door campaign, in catchment areas of CHCs.
   b. ANC (Ante Natal care) campaign piloted in selected districts with an aim to ANC registration, immunization and motivate the target group for institutional deliveries.

6. To generate awareness amongst the citizens regarding their rights and duties regarding services at health facilities, Citizen Charter were printed and displayed on a board at all health facilities of the Project

Sub component 3.2: Enhancing access to health care

The major interventions taken by CAEI Cell to enhance access to health care included introduction of outreach camps in tribal regions with the aim of providing specialist services close to the client, good and

cost effective strategy for identification and treatment of chronic problems and providing timely treatment and referral for emergencies.

Health/ Outreach Camps: In order to increase the reach of services particularly amongst Tribal and BPL population in six tribal and three desert districts covering all diseases, Outreach camps were held between June 2006 to June 2011. A total of 1474 camps were held with total beneficiaries 602643 (**BPL:** 240565; **Tribal:** 203643). For six months there were no camps due to insufficient allocation of drug budget. These camps have been instrumental in generating awareness besides offering services to marginalized groups and was documented through SIHFW in the 5th year.

Patient Counselors: RHSDP introduced the concept of Patient Counselors in different health facilities to facilitate the access (within facility), utilization of services by beneficiaries, especially BPL and marginalized group. Patient Counselors were appointed in 50 bedded and above facilities, (131) in three phases starting from 2006. They were oriented at the facility level at the time of their induction by the facility staff and further trainings were done through DPMU. Regular monitoring of their work was done. Their capacity again was enhanced by reorientation in 2010. The counselors justified their presence and did contribute to patient satisfaction as documented in another study done by SIHFW in Aug-Sep.2011.

Financial support to facilities: RMRS are in existence in each tertiary and secondary level health facilities since 1996 with autonomy and empowerment. RHSDP had a complimentary role since its inception in 2005 and till March 2010 had financially supported 100 facilities with reimbursement of expenses up to Rs. 12000/- per month and 138 facilities with Rs. 8000/- per month for telephone, stationery and other office expenses.

Community Based Health Insurance (CBHI): On the basis of the findings of a study conducted by Research Development Institute (RDI), New Delhi in Ganganagar district for RHSDP; CBHI was rolled on a pilot basis with the objective of providing protection to the disadvantaged population against unexpected health expenditure, facilitating the populace to seek timely and quality health care. Subsequently, a scheme on similar lines, MMJRK, was launched on January 1, 2009 with added benefits for the BPL and poor besides other identified categories. Presently the scheme is functional.

Other initiatives:

A few other initiatives under the project were-

- ASHA Health Communicator Model (Pilot project)
- Capacity Building of Health Communicators

Studies:

In order to plan and subsequently deliver effectively, a feel of what is happening was had through operational research, field studies were undertaken focusing on-

- IEC Strategy
- PPP contract documents
- Impact evaluation on VCD & ANC campaign

- Impact evaluation on Tribal development plan
- Household Survey in 9 priority district to assess equity and access of vulnerable group

Sub component 3.3: Supporting Public Private Partnership

No health care system has achieved level of spending sufficient to meet all its client need for Health care as the Resources are "scarce" and what we "want" is unlimited. Therefore involves "choice" between ideal and pragmatic that have maximum benefits with minimum resources to ensure efficiency.

Apposite to the capital intensive nature of health services ,the ever increasing expectations of people for quality of services and to tap the paying potential of a few with the objective to cross subsidize; it was decided to encourage private sector participation in the delivery of health care. Following a **STRAIGHT** approach (Identifying the **Scope** of partnership, Identifying the appropriate **Target** Population, Selecting the **Right** Partners and Model, Ensuring **Accountability**, Ensure active **Involvement** of the Govt., **Generate** Support of stakeholders through IEC, advocacy and rapport building, **Highlight** achievements, Build **Trust** of all the partners and clients), to facilitate the process of PPP procedural initiatives under the project were taken up, like:

- A module on PPP was developed and a dissemination workshop was organized through IIHMR.
- Creation of PPP cell in DM&HS.
- Development of model concession agreements (contracts).
- Rolling out of "108" emergency services under PPP mode through EMRI which later was converged with NRHM and is now presently being run by Ziqitza Health Care Limited at SIHFW campus.

Much remains to be done on PPP front in the State and now the onus lies with NRHM to build on the initiative.

Financial Management Cell:

Statement of Actual Expenditure up till August 2011 (Rs in Lacs)

Expenditure	Allocated project cost	Actual Expenditure Since inception
A. Investment Costs		
Civil Works	19760.00	19998.39
Hospital Equipment	5460.14	3219.89
Equipment (Office & Other)	1260.70	666.31
Furniture (Office & other)	1826.58	1376.6
Vehicle	12.19	9.07
Medicines	2963.80	3028.24
Hospital Supplies	3454.97	2316.14
MIS/IEC Materials	1826.62	1640.01
Consultant Services	1111.38	342.07
Professional Services	1300.00	615.35
Workshops	300.00	234.99
Studies & Evaluation	100.00	108.28
IEC Services	232.82	174.57

Training	1685.50	1540.7
Fellowships	25.00	14.01
Contractual Services	350.00	364.94
Total	**41669.70**	**35649.56**
B. Recurrent Costs		
Salaries of Additional Staff	2700.00	2807.09
Office Operational Exp.	1500.00	1487.67
Hiring of Vehicles	408.00	382.55
Vehicle Maintenance	30.00	26.84
Hiring of Common Waste Treatment Facility	400.00	476.64
Building Maintenance	100.00	105.66
Equipment Maintenance	300.00	278.68
Furniture Maintenance	150.00	118.1
Total	**5588.00**	5683.23
Grand Total	**47257.70**	**41332.79**

Due to changes in the designing and additional work which was not anticipated during inception of the project, the expenditure under the head of civil works got escalated. The details of Procurement during project period are given in Annexure 3.

1. Computerized Financial Management System (CFMS) was incepted to consolidate financial data of all districts in electronic form. Pilot CFMS of RHSDP is being replicated in State Finance Department.
2. Preparation of Annual Work Plan (AWP) with the concept of Component-Sub component-Activity-Sub activity to facilitate benchmarking and performance appraisal on one to one basis.
3. Three tier audit reporting concept to facilitate audit trail.
4. Exemption of Project from Rajasthan Entry of Goods Act after the justification that the induction of Entry Tax will increase the loan cost and additional burden on State Government and it would be difficult to recover such cost from bidders retrospectively.
5. Preparation of Accounting Manual based on RMRS Guidelines to facilitate managerial decision based on accounting data made by non accounting persons as facility in-charges.
6. Project funds RMRS for project activities in reimbursement mode.
7. Preparation of Revolving Fund manual with inputs from RMRS to sustain civil works and maintain utilization of medical equipments procured out of World Bank Fund. RMSCL plans to materialize the idea in a convergence mode.

Assessment of Project outcomes

PDO/ Component	Indicators	Baseline - 2006	Revised targets (Yr.5,6,7)	End term status - June 2011
PDO 1: Increased access of poor	Percentage of BPL populations among outpatients seen at all Project facilities (DH), sub Divisional hospitals (SDH &	8.74%	17%	16.6%

(i.e., BPL) and underserved populations to health care	CHCs)			
	Percentage of BPL among Inpatients seen at all project Facilities	8.5%	13%	17%
	Percentage of ST population among inpatients seen at all 49 project facilities In six tribal districts i.e. at district (DH) and sub divisional hospital (SDH &CHC) in six tribal districts	8.3%	15%	24.8%
PDO 2: Improve the effectiveness of health care through institutional development and increase in the quality of health care	Percentage of Community Health Centers (CHCs) conducting greater than 10 deliveries a month	60%	90%	96.6%
	Percentage of upgraded FRUs offering 24hours CEmOC	Taken up by NRHM		
	Percentage of clients satisfied with the services received at project facilities	End term Patient Satisfaction Study suggest that overall satisfaction has increased compared to results of one in 2008 by IIHMR		
	Percentage of the following categories staffed in project facilities a. Doctors b. Nurses c. Technicians	 59.8% 89.5% 105.4%	90%	 64.26% 117% 91.5%
Components 1: Policy development and project management	Percentage of project facilities reporting (paper based) monthly HMIS reports	94.1%	100%	90.34%
	Percentage of clinical trainings completed according to plan	Given in Annexure 4		
Component 2: Development of primary and secondary health care services in the public sector	Percentage of facilities renovated/upgraded out of the planned 239 facilities		100%	Completed in 97.48% facilities (deferred facilities 6) Additional (trauma/ ICU/ Rehabilitation/ Burn unit): work completed in 93.65% facilities
	Percentage of facilities i) initiating their HCWM plan ii) completing the implementation of their HCWM 343 facilities		100% 100% of project facilities and 75% of all facilities.	Training completed in 100% facilities CTF connectivity in 81.92% facilities Authorization in 100% facilities
	Percentage of drugs that are in stock of 15 vital/ essential drugs across all project facilities in a quarter	69% (Jan – Mar 2008)	80%	86% (April – June 2011)

	Percentage of facilities where HSIT have met once a month	3% (June 2006)	70%	85.29%
Component 3: Health care innovations for the disadvantaged	Percentage change in in-patients in upgraded facilities with IEC interventions as compared to inpatients in the same facilities in the same month in 2005		Prediction of target will be based on year 3 achievement	Evaluation of IEC campaigns has been completed. Final report shared with the department and approved. Recommendations of report sent to the department.
	Percentage of project facilities that have a Patient Counselor	0%	90%	100%
	Percentage of project facilities receiving payment from equity fund (RMRS)	0%	90%	100% (March 2010) (no equity funds are provided since financial year 2010-11)
	Number of service delivery contracts with NGOs and private sector	Planned activities have been completed		
	Percentage of the following categories staffed in tribal areas in health facilities a. Doctors b. Nurses c. Technicians	 49.6% 90% 91%	90%	 47.31% 108% 66.7%

Evaluation of Borrower's Performance

- Government of Rajasthan (GOR) assisted the mission to undertake its planned tasks - assess overall readiness of project preparation for appraisal, particularly in establishing procurement and financial arrangements.
- The draft HCWMP was prepared by GOR in compliance with GOI's Bio-Medical Rules.
- GOR showcases the activities of RHSDP on the official website of DM&HS.
- GOR was responsible for obtaining all necessary clearances required from state and central regulatory authorities.
- GOR contracted HLL for procurement of goods and services.
- Adequate budget provision for the project from State Budget.
- Implementation of IEC Strategy developed by RHSDP.
- A Committee was formed to review the quality of civil works done for the up gradation of facilities.
- Issued an order to the facilities for constitution of HSITs.
- Issued an order for integration of RHSDP and RCH outreach camps in 9 districts.
- A joint order was issued for identifying different nodal persons for the various areas from RHSDP and NRHM and DM&HS.

- NRHM took lead in developing the HMIS for the state relating to primary care indicators on family welfare and disease control programs.
- GOR instituted the Rajasthan Rural Medical Health Services to effectively address HR shortages in the rural areas.
- 4,370 nurses recruited to fill up all vacant nursing positions in the state.
- Strengthened of IEC for health care and appointed District level IEC Coordinators.
- Utilization of manpower trained in geriatric care under the aegis of the project to operationalize geriatric centers.
- Independent monitoring committees formed across the state to monitor CTF operations and provide feedback to department.
- State NRHM made provisions in its Project Implementation Plan (PIP) of 2011-12 for capacity building; strengthening and scale up of quality improvement; strengthening of health systems through improved drug warehouses; scale up of IT supported hospital management systems; support the zonal medical equipment management and maintenance workshop in Jaipur zone; uptake of patient counselors; continuation of RCH-RHSDP outreach camps in nine priority districts; and the use of print and electronic IEC materials developed by project.
- Rajasthan Medical Services Corporation Limited (RMSCL) constituted in the State with the objective of establishing a centralized system for procurement of generic medicines, surgical and diagnostic equipments. Essential drugs of maximum use are proposed to be made available free to all patients at Government Hospitals.

Initiatives by RHSDP

For a prudent approach with pragmatism inbuilt, certain areas, that were hitherto neglected, were also addressed in order to bring in uniformity in delivery besides objectively addressing the punctuations. Some of them are:

- Standard Protocols of Clinical Care, Referrals, HCWM Norms Developed-Space, Staffing, Equipments
- Development & rationalization of Hospital Activity Format
- Development of Standard Treatment Guidelines(STG) /Essential Medicine List (EML)
- Health Systems Performance Improvement Concept
- Strengthening of Referral & HCWM
- Appointment of Hospital Administrator at District Hospitals
- Pilot Community Based Health Insurance & EMRI
- Appointment of Patient Counselors
- Strengthening of Health Camps & Village Contact Drives
- Training on Behavior Change & Communication
- Development of Contract Documents for PPP (Facility out sourcing, pharmacy, ambulance, diagnostics & Mobile clinics)
- One time repair of hospital furniture & equipments
- Trainings on RUD and Geriatric Care

Initiatives under the Extension Phase

- Strengthening of District Hospitals by filling in the gaps pertaining to ICUs, Burn ward, Rehabilitation center and Trauma centre
- Strengthening Health Management Information System by having web based IT Systems
- Addressing the Human Resource Effectiveness through capacity building & skill development programs.
- Strengthening Equipment Management and Maintenance System
- Strengthening the Drugs Logistics System.
- Special purpose fund (revolving fund)for medical equipment, hospital, building repair and maintenance
- Strengthening State Resource Center at SIHFW which supports the training requirement of the State
- Health communicator at village level in six tribal and three desert districts
- Concurrent Monitoring of Civil works by an independent agency
- Gap Analysis at all 100 bedded and above hospitals(44) in the State against the Indian Public Health Standards

The continuation of ongoing project activities showing a positive impact, like HSIT, HSIC, Health Camps, IEC, Health Care Waste Management, and Patient Counselors were included in the extended phase also.

Learning from project

1. Coordination is vital to achievement of objectives.
2. Frequent transfers are deterrent to inputs and related outputs
3. Data validation is crucial to planning: services, procurement, civil works and capacity building.
4. A balanced mix of infrastructure development and system intervention can produce substantial improvement in efficiency and effectiveness.
5. Total improvement in referral mechanism requires parallel improvement in the primary health care services. To complete the referral loop needs major support of Tertiary care institutions.
6. Participation of private sector (for-profit and voluntary) is essential. To make partnership effective clarity of purpose, Trust and defined deliverables besides coordination and monitoring at the local level is extremely important.
7. Consultants with experience in hospital constructions should be engaged for preparing plans, drawings and designs and study the shortcomings of the existing infrastructure.
8. The price variation clause in the tender for works with less than 18 months completion time should be deleted in conformity with PWD procedure to restrain the agency from delaying construction works.
9. Concurrent quality evaluation of all the facilities should be done by independent agency and end user should be involved in quality assurance of civil work.
10. Involvement of subject experts (e.g. Bio-Medical Engineer) in finalization of specification, costing, AMC/CMC and inspection of equipment.
11. Phased Procurement of supplies and equipment linked to progress of civil works. Midterm need assessment is suggested.
12. Procurement agency, if hired should be stationed in the project office for capacity building of project staff.
13. Specifications should be generic to reduce complaints from suppliers
14. Facilitation in the process of Authorization and CTF Connectivity
15. Regular HCWM Supplies
16. Periodic Trainings to all staff

17. HCWM Officer for monitoring
18. Replacement of Mercury based equipments in view of eco-friendliness nature of substitutes.
19. Prior Approval of specifically designed TOR
20. Identification of Agency for trainings, if out sourced; based on experience, credibility and capacity to handle volumes.
21. Ensuring quality of training - Pretest, Post test and feedback and monitoring
22. Timely Nomination and attendance along with Punishment for noncompliance be ensured.

Areas of Convergence with NRHM and sustainability of project inputs

- Training capacity building
- Civil design, implementation and monitoring capacity
- Maintenance of project hardware
- Hospital Systems Improvement Process
- Health Care Waste Management
- Social Accountability Mechanisms
- Consumer Feedback and complaint redressal
- Reporting formats
- IEC (print, electronic)
- Patient Counselors
- Hospital Administrators

Annexure 1: Workshops (255) conducted by SPC

S. No.	Workshops conducted	Total Done
PIU/ State Level (22)		
1.	Annual consultation with major stakeholders(I-yr.)	2
2.	Workshop on policy related issues (III & IV yr.)	2
3.	Workshop for finalizing health care waste mgt. guidelines, protocols, and formats(IV yr.)	2
4.	Workshop for standard treatment guidelines(I-yr.)	2
5.	Workshop for disseminating strategy for HMIS(I-yr.)	1
6.	Workshop for strengthening procurement of drugs / supplies (I-yr.)	1
7.	Workshop to develop set of quality indicators(I-yr.)	1
8.	Workshop for finalizing referral protocols, referral cards, and feedback cards	1
9.	Workshop for developing IEC material	1
10.	Dissemination workshops for IEC strategy	1
11.	Consultative workshops to share the findings of govt., schemes and preparation of guidelines	1
12.	Consultative workshop to initiate the government activities to design and implement the PP contracting mechanisms	1
13.	Training in WB procurement procedures for PIU and DPMC	1
14.	Workshop on healthcare waste management guidelines	1
15.	Dissemination workshop on the results of the study on diagnostic to determine public private partnerships	1
16.	Workshop on policy related issues- gender	1
17.	Workshop to discuss the CBHI policy after deliberations over the prior activities	1
18.	National workshop on Health Care Waste Management	1
Zonal Level (7)		
1.	Sensitization workshops for service providers	6
2.	Sensitization workshop for NGOs	1
District level(226)		
1.	Consultancy workshop for annual consultation with major stakeholders at the dist level by DPMC	57
2.	District workshops for dissemination of guidelines/ workshops	8
3.	District workshops for dissemination of referral protocols and cards	30
4.	Workshop for dissemination of HCWM guidelines	32
5.	Workshops for dissemination of STGs and EDLs	9
6.	Sensitization workshops for PRIs and NGOs	57
7.	Sensitization workshops for service providers	33

Annexure 2: Trainings Modules developed by HR Cell

S.No.	Module developed for different trainings
A.	Clinical/ Technical Training
1.	Training in Mental Health and Drug Abuse for Physicians
2.	Training in Echo-Cardio for Physicians
3.	Training in Management of premature and LBW babies for Pediatricians
4.	Training in Neo-natal intensive care, Use of incubators, phototherapy units, radical warmer for Pediatricians
5.	Training in Management of birth asphyxia, birth injuries, jaundice and convulsive disorders for Pediatricians
6.	Training in Recent advances and Techniques in Anesthesia for Anesthetics
7.	Training in Cataract and Microsurgery for Ophthalmologists
8.	Training in Keratoplasty for Ophthalmologists
9.	Training in Practice in Implant Surgery for Orthopedic Surgeons
10.	Training in Procedure of Biochemistry for Laboratory Technicians
11.	Training in Management of ICU/ICCU for Physicians
12.	Training in Management of Trauma/Poly-Trauma for General Surgeons
13.	Training in Operation Theater for Staff Nurse/ANM
14.	Training in Management of Poly Trauma and Orthopedic Splints for Staff Nurse/ANM
15.	Training in Pediatric Nursing for Staff Nurse/ANM
16.	ENT – Bronchoscope, Removal of Foreign bodies & Microsurgery
17.	General Surgery – Management of Critically ill patients
18.	General Surgery – Training in USG
19.	Lab. Technicians – Procedures of Blood Bank
20.	Lab. Technicians – Procedures of Histopathology
21.	Lab. Technicians – Procedures of Microbiology
22.	Obs. & Gynae – Laparoscopic Sterilization
23.	Obs. & Gynae – Training in USG
24.	Obs. & Gynae – Care of New Born
25.	Orthopedics – Management of Poly Trauma cases
26.	Physician – Management of Critically ill patients
27.	Physician - Training in USG
28.	Radiographer – Training in radiographic techniques
29.	Radiologist – Ultrasound sonography
30.	SMO/MO – New born care
31.	SMO/MO – Obstetric Procedures
B.	Referral System Training
C.	Managerial Training
D.	Quality Improvement Training
E.	Hospital Waste Management Training
F.	Equipment Maintenance/Repair Training
	a. Training module for Laboratory technicians
	b. Training module for ECG Technicians
	c. Training module for O.T. Assistants
	d. Training module for Radiographers
G.	Rational Use of Drugs Training
H.	Behavior Change Communication Training
	a. Training module for Medical Officers
	b. Training module for Nurses & Paramedical Staff.
	c. Training module for Class IV
I.	Geriatric Care Training
J.	Disaster Management Training
K.	Medical Jurist Training
L.	Rational Use of Drugs

Annexure 3: Procurement during project period (Rs. In lacs)

Category		Drugs & Medicines	Hospital Supplies	Hospital Equipment	Office & Other Equipment	Office & Hospital Furniture	Vehicles	Total
I Year	Target	560.40	299.40	0.00	184.70	76.20	10.00	**1130.70**
	Ach.	310.24	246.86	0.00	88.94	24.00	9.07	**679.11**
II Year	Target	632.50	319.60	1094.50	481.00	372.00	0.00	**2899.60**
	Ach.	588.82	289.96	708.58	204.31	412.23	0.00	**2203.90**
III Year	Target	768.90	483.20	1164.80	259.60	619.00	0.00	**3295.50**
	Ach.	726.86	499.14	587.91	82.92	747.27	0.00	**2644.10**
IV Year	Target	562.60	219.90	741.90	225.70	129.80	0.00	**1879.90**
	Ach.	156.89	251.35	135.86	21.83	68.56	0.00	**634.49**
Comprehensive Plan	Target	163.60	116.00	1665.10	356.20	117.00	-	**2417.90**
	Ach.	7.05	14.64	686.01	101.88	31.11	0.00	**840.69**
V Year	Target	1303.40	706.40	-	12.50	-	-	**2022.30**
	Ach.	594.71	604.31	-	12.22	-	-	**1211.24**
Extension Phase	Target	812.22	632.70	4760.80	942.95	735.45	-	**7884.12**
	Ach.	683.92	599.11	2732.14	720.21	390.62	-	**5126.00**
Total	Target	4803.62	2777.20	9427.10	2462.65	2049.45	10.00	**21530.02**
	Ach.	3068.49	2505.37	4850.50	1232.31	1673.79	9.07	**13339.53**

Annexure 4: Trainings Organized and staff trained by HR Cell

S.No.	Training	Category of participants	Target*	Achievement	Percentage
a.	Managerial - I	Doctors	401	396	98.75
b.	Managerial - II	Nursing staff	188	173	92.02
c.	Foundation Course	Newly recruited Doctors	343	532	155.10
d.	Quality Improvement	Doctors	343	284	82.80
e.	HCWM-I	All Staff	13233	13233	100.0
f.	HCWM II	All Staff	30195	30195	100.0
g.	Clinical/Technical	Specialists, SMO/MO. Paramedical Staff	4503	2866	63.64
h.	Referral	SMO/MO & Nurses	1286	1136	91.17
i.	Maintenance of Equipment	Lab. Tech., OT Assistant, Radiographer, ECG Technician	1541	1296	84.10
j.	BCC – I	All Staff	1905	1645	86.35
k.	BCC -II	All Staff	3621	3109	85.86
l.	RUD - I	Doctors	371	380	102.43
m	RUD - II	Nursing staff	492	501	101.83
n.	RUD - III	Nursing staff	472	302	63.98
o.	Equipment Based Training	Specialists	645	208	32.25
p.	Geriatric Care	Physician/SMO/MO	300	313	104.33
q.	Medical Jurist Training	Doctors	400	200	50.00
r.	Disaster Management	Doctors	300	326	108.67
s.	Disability Management	Doctors	472	139	29.45
t.	Managerial Training	BCMO	237	140	59.07
u.	Skill up-gradation	Doctors	400	241	60.25

*** Revised targets as per discussion with World Bank Mission visit.**