

ARTH ANNUAL REPORT 2011-2012

Action Research & Training for Health (ARTH), Udaipur



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As a public health organization, ARTH has been working since 1997 to improve maternal and child health in a variety of capacities. The three primary programmatic areas where much research and activities were taking place over the last year include reproductive health, child health, and health systems & policy. This work has been implemented across three operational divisions over the last year:

- I. Service Innovation
- II. Training and Programme Support
- III. Research and Evaluation

Within the reproductive health program, there has been a specific emphasis over the last year in improving adolescent reproductive health education and access to contraceptives, continued efforts in reducing maternal and infant mortality rates through the continuum of care model involving timely and thorough delivery reporting and PNC visits and access to and assessment of safe abortion medicines and practices. The child health program has been focusing its efforts on reducing child malnutrition through assessments of the needs in rural communities and implementing a research trial measuring the effectiveness of three potential solutions, as well as improving access to child development education and activities for rural families. Additionally, there have been other ongoing research trials that are in both action and assessment phases, and like many of the research trials and interventions we are running, involve community education, training and action in areas in Udaipur district with limited access to healthcare. This report summarizes highlights of progress during 12 months of the year 2011-12.

I. Service innovation

I.1. Reproductive and child health centres

Table 1: ARTH RCH Centres

ARTH RCH center	District	Panchayat Samiti	Villages covered	Rural/urban	Total population	% SC & ST	% OC
Kadiya	Udaipur	Badgaon	22	Rural	23,990	42	58
Kuncholi*	Rajsamand	Kumbhalgarh	19		36,878	49.7	51.3
Lakhmawaton ka Guda*	Udaipur	Gogunda	8		475,150	NA	NA
Udaipur city	Udaipur	Udaipur city Metropolitan /urban area	16 slums	Urban			
Total / Average					536,018	45.9%	54.1%

*Kuncholi and Lakhmawaton ka Guda health centres share the same outreach population

**right now we have 4 health centers as per the previous report Jaswantgarh centre was closed on 31 Aug 2010.

I. 1.a. Rural reproductive and child health centres

Services provided at the rural health centres included:

- Daily general primary care services
- 24x7 delivery services and management/referral for maternal-newborn complications
- IMNCI management for children and primary health care by nurse-midwives

- Safe abortion services (first trimester)
- Reversible methods of contraception
- Gynaecological services, including infertility management
- Laboratory facilities to do basic investigations

The health centres are primarily managed by trained nurse midwives, accompanied by doctoral visits twice per week, where they offer 24/7 delivery care and other services. The urban health centre has daily services by a gynecologist supported by nurses and a lab technician, with outreach services by ANMs in selected wards. Our Kuncholi clinic was, and continues to be, the current home location for one of the research studies being conducted by ARTH.

Table 2 and the charts below show data of major services provided at the rural health centres in the last four years.

Table 2: Utilization of RCH services at ARTH's rural health centres

Service indicator	2008-09	2009-10	2010-2011	2011-2012
Child immunisation	478	592	737	1009
ANC visits	2459	2562	3231	3736
Cu-T insertions	183	100	77	68
DMPA (Total injections)	1110	1395	1283	1384
Obstetric emergency referrals	35	31	44	33

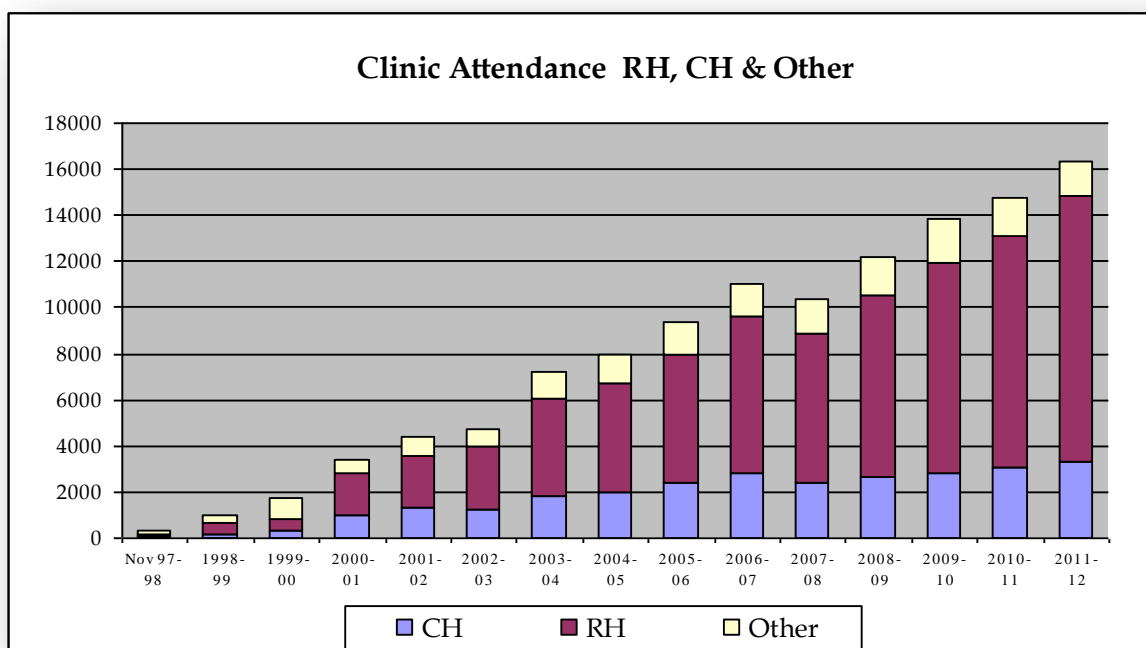


Chart 1

Table 2 demonstrates a change in methods of contraception being used over the last year. There has been a reduction in Cu-T insertions which there has been a fairly large increase in number of women using DMPA as their preferred method.

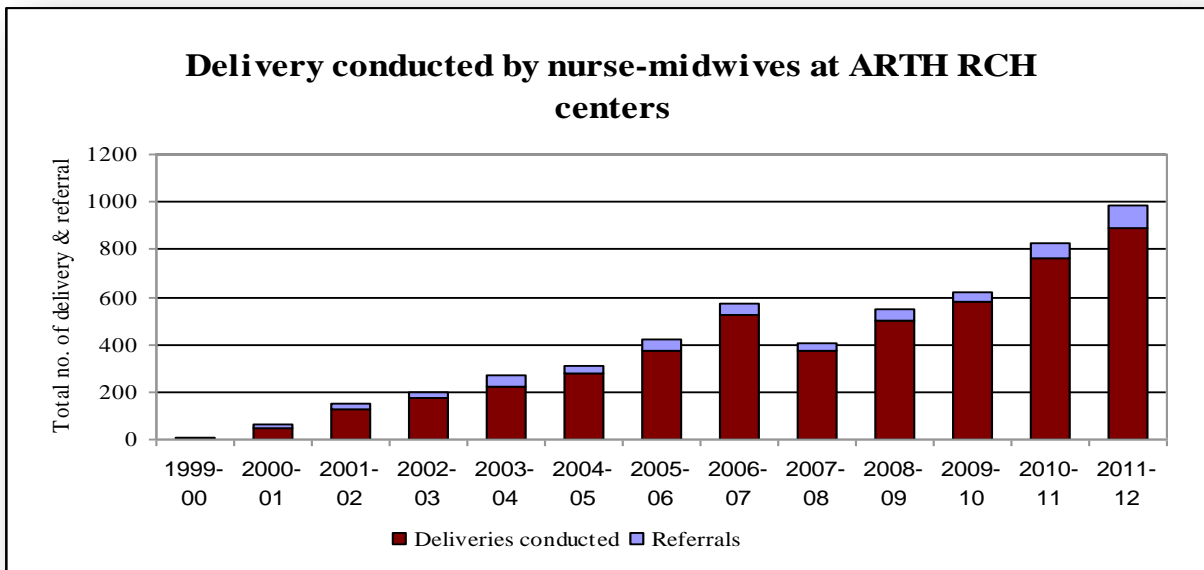


Chart 2

The number of clients visiting ARTH health centres for other treatments also continued to climb over the last year, along with the overall clinical attendance in ARTH’s field area.

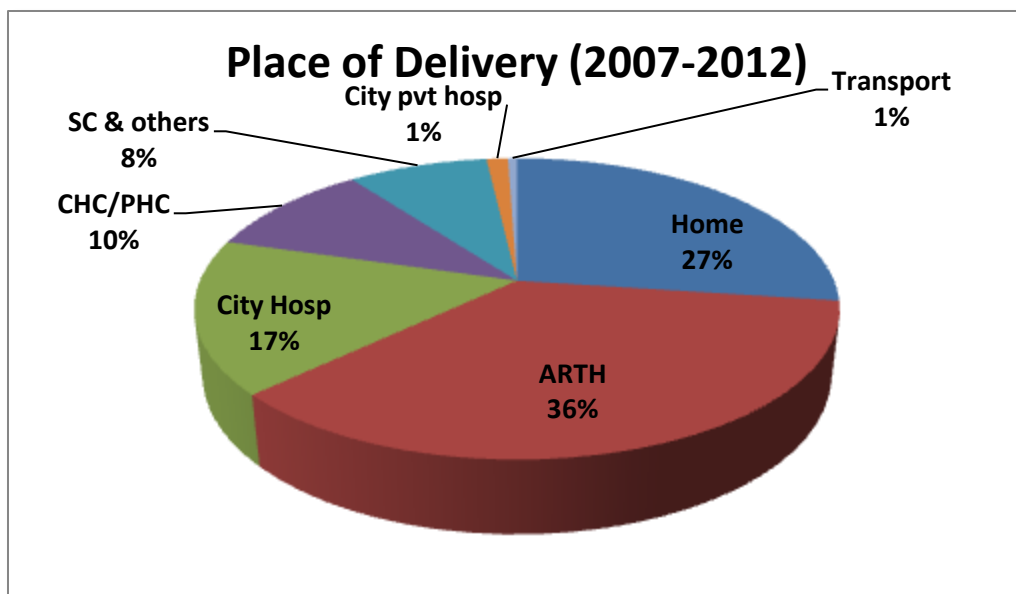


Chart 3

Deliveries at all of ARTH’s rural health centres continued to increase over the year, with a slight increase in the number of referrals. Over the last 6 years, ARTH has conducted the largest percentage of reported deliveries of all locations in its field area, totaling 711 from January to December 2012 as compared to the city hospital’s 220, CHC/PHC’s 141 and SC/Other’s 133.

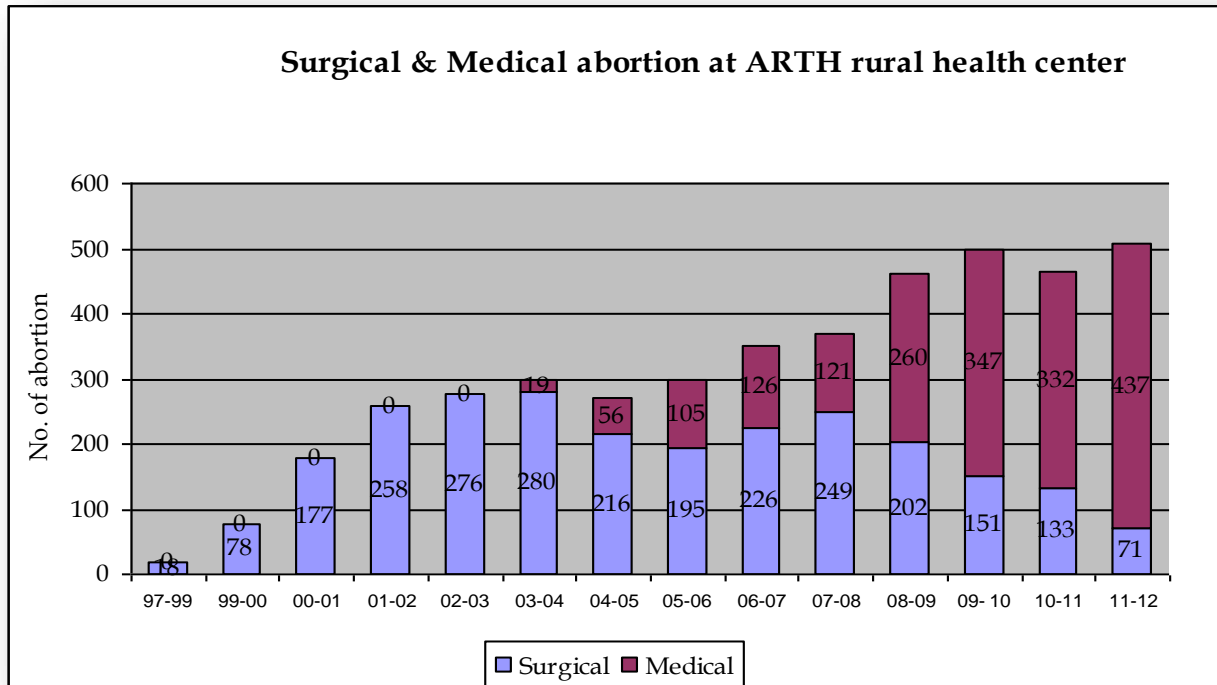


Chart 5

The number of women seeking abortions increased this year, however there is a steady change in the method women are utilizing in order to complete them. The proportion of medical abortions continued to increase as compared to surgical abortions, which have been decreasing in number over the last 4 years.

I. 1. b. Urban reproductive and child health centre (URCH)

ARTH’s health centre in the slums of Udaipur city is one of the four organizations operating such health centres in Udaipur city, and one of 43 in the state. The strategy of the staff and community workers there is to reach women at their doorstep and cater to their health needs through home-level management and treatment, or referral to the URCH as and when required.

The services provided at the URCH included:

- Primary health care
- Child health care
- Safe abortion services (first trimester)
- Reversible methods of contraception
- Obstetric and gynecological services including infertility management and treatment for RTIs
- Laboratory facilities to do basic investigations
- Referral for deliveries and maternal-newborn complications

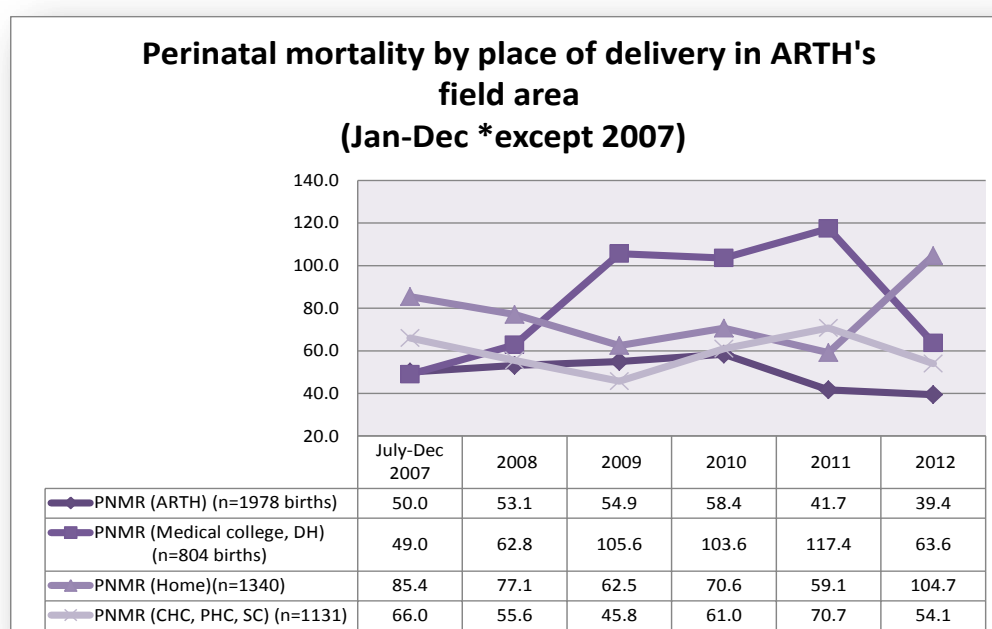
Table 3: Utilization of services at ARTH's urban health centre

<i>Service indicator</i>	<i>Apr 11-Dec12</i>
No. of patients in OPD	4516
No. of pregnant women registered	75
No. of pregnant women who received 3 ANC's	25
No. of people eligible for contraceptive services	506
No. of eligible couples who received contraceptive services	768

I.2 Providing continuum of maternal, newborn and infant health services in a primary care setting in southern Rajasthan

Time frame	2006 onwards
Objective	To reduce maternal and neonatal mortality and morbidity by ensuring continuum of care from pregnancy to one year after delivery, especially during the postpartum period for all mothers and newborns irrespective of the place of delivery.
Population/ area of coverage	49 villages of southern Rajasthan with a population of approximately 60,000
Sponsor	MacArthur Foundation

We continued with our program to provide postpartum visits to all women who delivered in our field area in order to detect and manage the maternal and neonatal health problems that might arise. During the year, nurse midwives visited a total of 1,600 women, 93% of which received a second postpartum visit. Through the period of this intervention we saw an overall decline in neonatal and perinatal mortality rates in most of the delivery facilities in ARTH's field area, especially in ARTH's RHCs. This trend, with the exception of home births, continued through to last year (chart 6 below), coinciding with a further increase in the timeliness of PNC-1 and PNC-2s as well as their quantity.



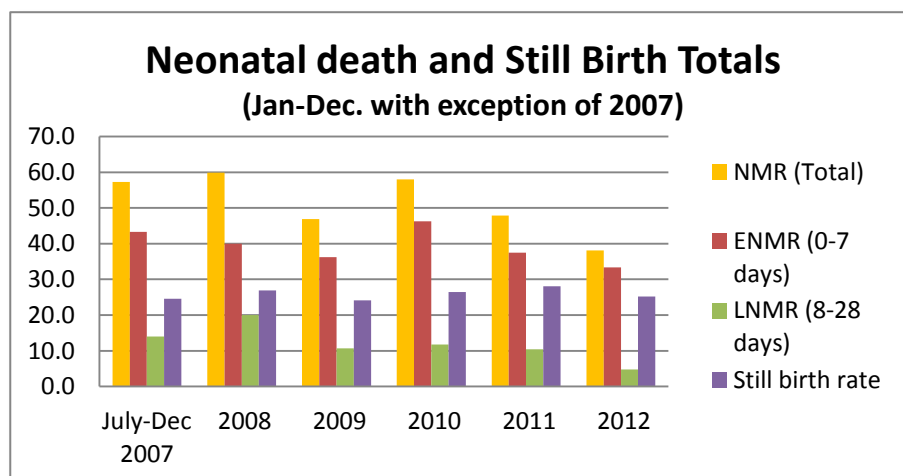


Chart 7

Additionally, village health workers and ASHAs visited the houses of all delivered women at 28 days, 6 months and 12 months intervals following childbirth. The objectives of these visits related to information & counseling on maternal and child care, danger signs relating to their own health and that of their child, breastfeeding, weaning (at 6 & 12 months), contraception, maternal nutrition, and to record survival.

Table 4

Activity	Person conducting	Number of women visited last year
First postpartum visit (PNC-1)	Nurse midwife	1600
Second postpartum visit (PNC-2)	Nurse midwife	1512
28 days visit	Village health worker/ ASHA	1052
6 month visit	Village health worker/ ASHA	790
12 month visit	Village health worker/ Social worker	589

Last year, ARTH collaborated with PATH, Seattle for improving the quality of postpartum visits. As part of the program, software was developed and installed in smartphones, which had the postpartum checklist for mothers and babies. Educational videos were also developed and installed which were shown to mothers. The nurse midwives were trained in the use of smartphone and the checklist designed for it in an effort to provide more thorough care and better counseling. The results from this intervention showed an improved quality of care in many areas of the checklist and only a slight change or no change at all in others.

1.3 Educational activities with adolescent girls and young women:

In the last year, we continued carrying out reproductive health education to adolescents and young people using 2 strategies:

- I. *Individual contacts and targeted intervention with newly married adolescents:* A total of 3,859 women and 1,255 men were contacted during this year by our village health workers and social animators. During these individual contacts, our field workers distributed a total of 1,795 takeaway booklets to young women and men.
- II. *Group education:* A total of 196 meetings were conducted last year in which 1,271 girls participated. This averages to 16 meetings per month, in which 106 girls participated every month. For group education, we distributed 25 cameras in a monthly meeting to adolescent girls to familiarize them with new equipment and generate knowledge about their likes and dislikes.

In the coming year, we are planning to use multimedia techniques to communicate with adolescent girls and boys. We expect that this will generate greater interest in educational sessions and will be scalable even with village health workers who are not highly skilled.

I.4 Improving access to reproductive health services

Through its clinics and community based services, ARTH provided reproductive health education and services to young people in its field area.

1.4.a. Community based services:

In the last year ARTH has furthered the development of its community-based services to specifically include younger women. Village health workers (VHWs) appointed by ARTH and government’s accredited social health activists (ASHAs) provided services on the village level that included pregnancy tests, contraceptives, emergency contraceptives, RH education and referral services to health centres. In the last year, nearly 1600 women were provided pregnancy test service at village level (chart 3), nearly 40% of which were young women up to age of 24 years.

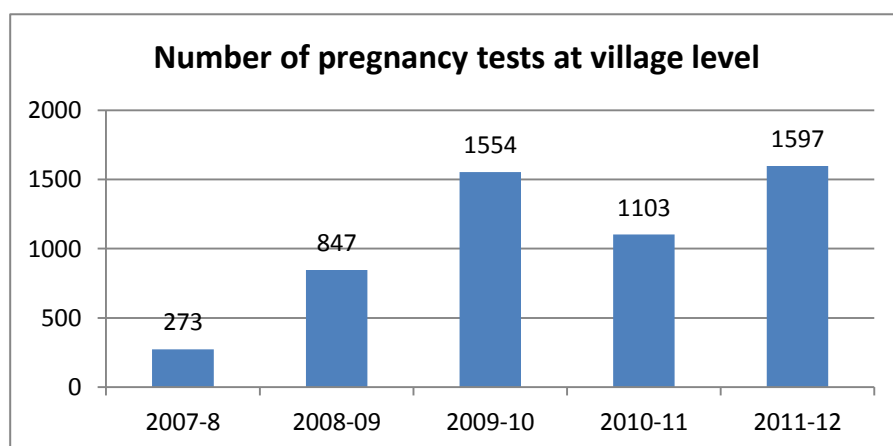


Chart 8

Additionally, village health workers provided oral contraceptive pills to 1,793 women and condoms to 1,147 women during the last year.

	Oral pills	Condoms	ECs
Number of women	1793	1147	401
Number of packets	2297	1832	401
Average women served per month	149	96	33

Earlier research done by ARTH on perceptions of teenage pregnancy, as well as field experience, has shown that there is a great reluctance by adolescent girls (even if they are married) to use any contraception due to concern about future childbearing. It was also found that a large number of women and adolescent girls used emergency contraceptives in field area.

II. Training and Programme Support

I. Provide technical and programmatic support to the NRHM in Rajasthan for implementing evidence based delivery and newborn care practices

We provided programmatic support to the state government in its 11 districts, which included: Bharatpur, Karauli, Sawaimadhopur, Dholpur, Udaipur, Pratapgarh, Banswara, Rajsamand, Dungarpur, Chittorgarh and Bundi.

- 1. Facility Support:** In consultation with the government health department, facilities to be strengthened were identified in the 11 selected districts. A list of the number of deliveries between April 2009 and March 2010 was used to identify each and 2-3 facilities with the highest caseloads were selected.

Ultimately, we covered a total of 88 facilities in these 11 districts in year 2011-12. A summary has been given in the table below.

	Number of facilities covered	Types of facilities
3 districts of Udaipur zone (request by UNFPA for additional support)	59	3 district hospitals 56 CHCs and PHCs
3 other districts of Udaipur zone	6	3 district hospitals 3 CHCs
4 districts of Bharatpur zone	13	4 district hospitals 9 CHCs
Bundi district	11	1 district hospital 3 CHCs 4 PHCs 3 subcentres
Deliveries conducted by these facilities in year 2011 ¹	150610	

We have carried out a detailed analysis of work done in 45 high case load facilities. The

¹ Pregnancy tracking software system for Rajasthan (PCTS)

delivery caseload of these facilities varied from 465 to 10,517 per year (an average of 2,968 deliveries per year).

Additional activities conducted in year 2011-12 included:

2. Carrying out baseline assessment for 50 new facilities of Udaipur zone and 10 facilities of Bundi district.

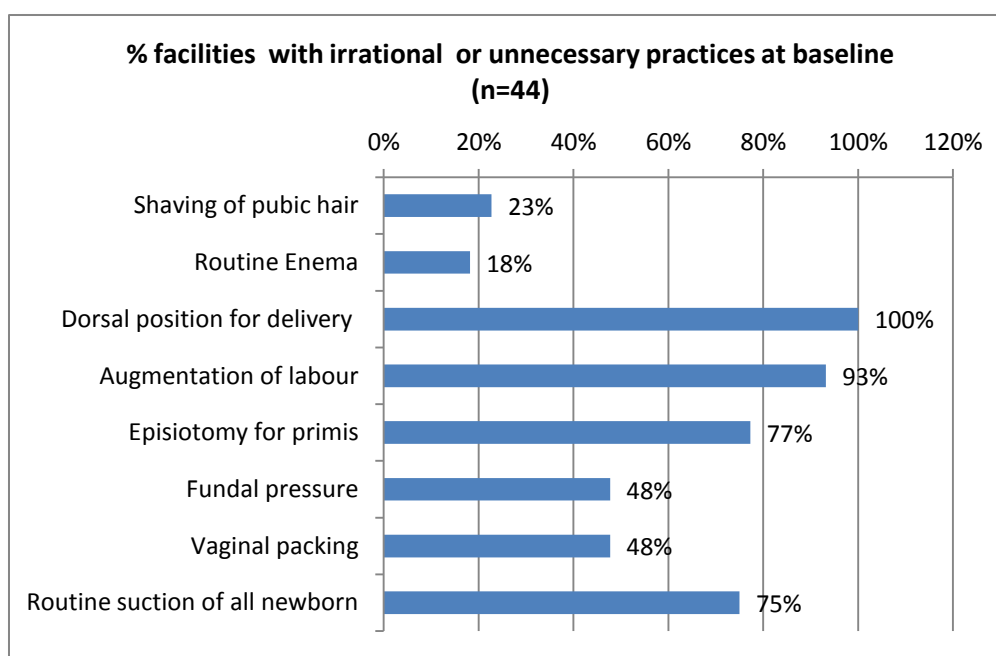
The baseline assessment included an examination of the quality of childbirth and immediate newborn care services. Three tools were used for the assessment of quality of services:

- Facility assessment checklist* (based on essential requirements of equipment, supplies and amenities in a labour room and availability and training status of staff)
- Labour and delivery observation checklist* (based on 18 essential evidence based practices during labour and delivery). To be able to use this checklist, the project personnel had to be present at a time when delivery was actually taking place in a facility.
- Questionnaire for interview with women in postpartum wards* (to be used with women in postpartum ward, who delivered in the same facility in the last 2 days. It included 10 items and was meant to measure whether women received appropriate care or not).

3. Scoring the facilities:

Subsequently, a scoring sheet was developed based on these tools. In the scoring sheet, the tools have been scaled back from their original lengths in order to target the most pressing indicators of inputs and practices for maternal and perinatal survival. It included a total of 18 practices and 10 items of inputs.

Based on the baseline study, the overall percentage scores for the harmful or unnecessary practices being conducted within the selected 81 facilities at baseline were as follows:



The above chart shows that some of the unnecessary and harmful practices were being done

very frequently e.g. augmentation of labour, fundal pressure and vaginal packing. The baseline study also showed that several beneficial practices were not being followed adequately, e.g. monitoring of fetal heart sounds and use of a partograph. The practice of hand-washing was very inadequate, and very few facilities provided postpartum checkups of women after being shifted to the ward during a very vulnerable period.

4. Orientation - training of doctors and program officers on evidence based delivery-newborn care:

Doctors conducting deliveries in these facilities and district level officials were invited to a 1 day orientation workshop on key quality issues. During the year 2011-12, a total of 4 workshops were conducted - one workshop for Bharatpur zone covering 4 districts, 2 workshops for Udaipur zone covering 6 districts and one workshop for Bundi district. The number of participants in each of the workshops is as follows:

	Dates of orientation	District administrators and other staff	Service providing doctors
Bundi	3 May 2011	40	15
Bharatpur	6 April 2011	8	32
Udaipur	25 June 2011, 12 Nov 2011	17	53

5. Training of nurse midwives as skilled birth attendants (SBAs):

ARTH carried out the training of medical trainers of skilled birth attendants. During the period of April 2011- March 2012, we carried out a total of 6 training programs for trainers of SBAs, each lasting 21 days. This covered a total of 77 persons including 9 nursing tutors and 68 staff nurses from labour rooms.

These trainers were essentially faculty of district level nursing-midwifery training schools and senior staff nurse-midwives of district hospitals. The TOT has allowed the participants an opportunity to assess delivery and newborn care practices in their institutions and to work towards improving quality therein.

6. Short intensive training of skilled birth attendants:

Additionally, 68 nurse midwives from three districts (Bundi, Pratapgarh and Banswara) were provided four 5-7 day short intensive SBA trainings.

7. Regular facility assessment, feedback, training and action system:

One or two persons (social scientists appointed by the project and well trained on quality of delivery newborn care) visited selected facilities once in 2-3 months. At each facility they followed an AFTA cycle.

- a. *Assessment:* They carried out a quality assessment using the set of 3 checklists.
- b. *Feedback:* After each assessment, the person /assessment team gave feedback to those in charge of that facility (e.g. Principal Medical officer, Medical Officer in Charge, BCMHO, and BPM) on shortcomings and discussed ways to improve them.
- c. *Training:* S/he also carried out a short orientation of 1-2 hours for the staff on key skills

using presentations and guidance materials, supplemented by practical bedside examples in the same health facility.

- d. *Action:* In collaboration with government staff, the project person also took actions to fulfill the gaps in equipment and supplies on the spot, e.g. s/he inspected the store room of the facility and checked if any items missing in labour rooms were present in store room. They also checked and documented the hygiene and cleanliness of the facility's birthing and care rooms.



Labour table



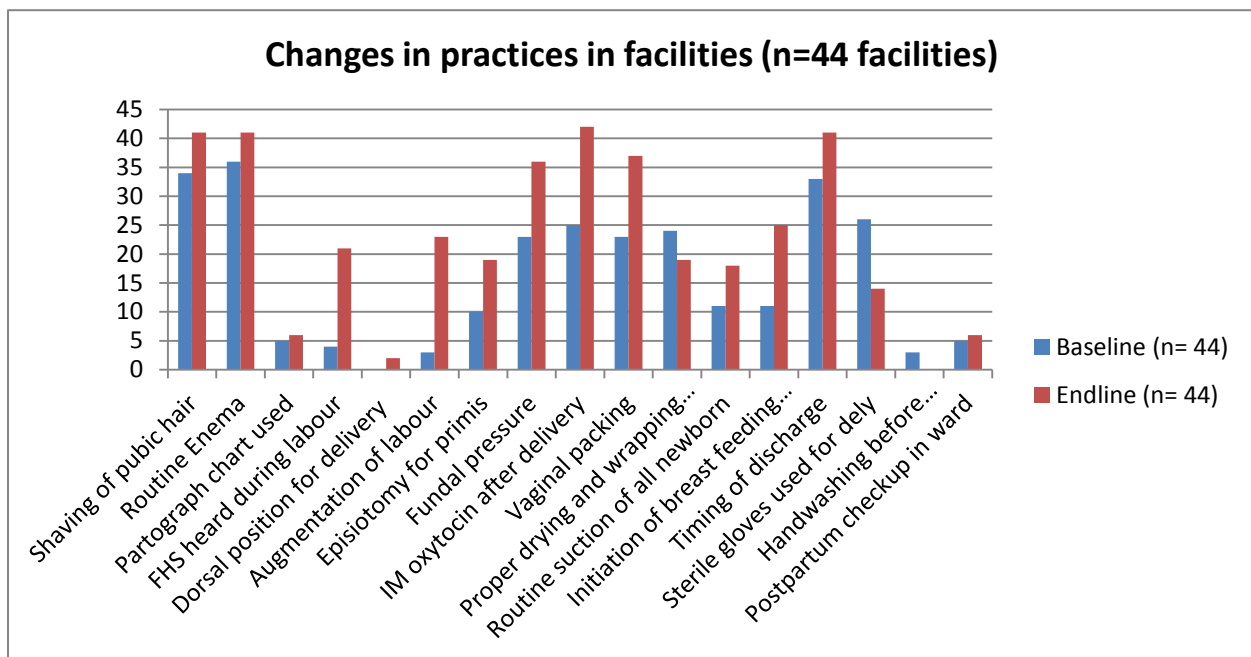
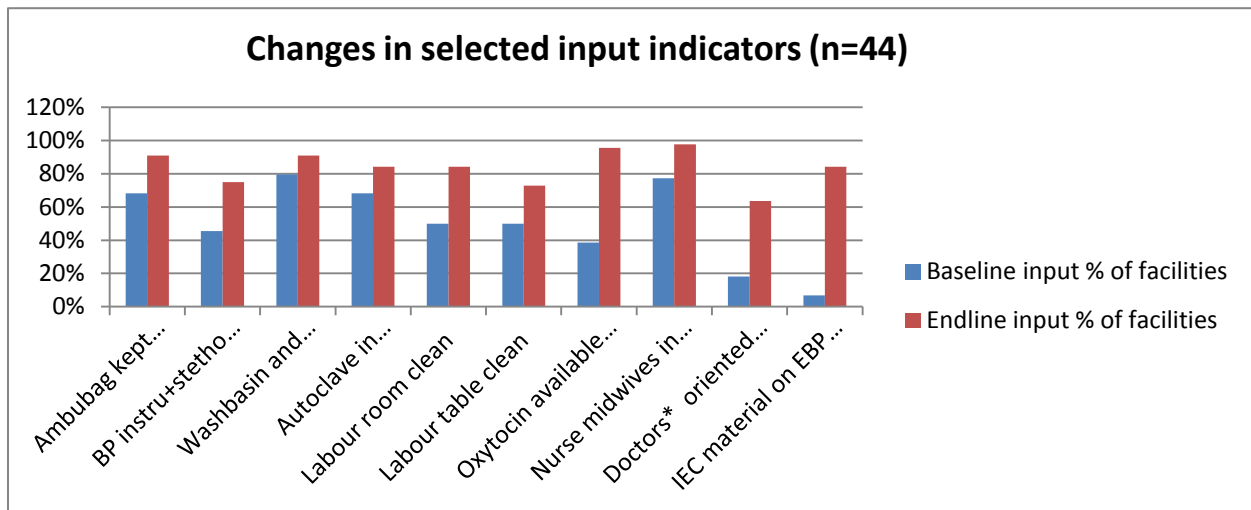
Unclean equipment

Assessment, Feedback, Training & Action
Feedback



8. Effect of ARTH's interventions on practices on improvement in childbirth practices:

As a result of our efforts, we found some mild improvement in inputs as well as an increase in scores of certain other practices. As seen in the chart below, several inputs showed improvements, such as a higher proportion of staff being trained on evidence based practices and the availability of BP instruments and stethoscopes.



Similarly, the practices showed improvement to variable extents, and in some cases they were not favoring the patients. In an effort to ensure positive changes occur, we held review meetings with district officials and explained the situation to them. They issued official orders to respective facilities to improve their practices. However, providers are still resistant to change several practices, which we are making continued efforts to change over the course of this year.

II. To mobilize greater community demand and health systems accountability for safer delivery and newborn care within public and private health

1. Workshops for NGOs and media persons in districts:

Seven workshops were conducted with NGOs in the state and four workshops were conducted with journalists to draw attention to the lack of quality care during delivery and the

immediate postpartum period, as well as its deleterious effects on perinatal mortality, maternal mortality and morbidity. Sets of communication materials were also produced and disseminated. The total numbers of NGO personnel that participated in these training programs were as follows:

District	NGO Name	Number of participants	Dates
Bundi	Nehru Yuva Kendra		--
Bharatpur	Pradan Sansthan	09	11 May 2011
	Ekta Bodhgram	08	17 May 2011
	Shri Jan Jivan kalian Sansthan	12	20 May 2011
	Nehru Yuva Kendra	20	30 Aug 11
Udaipur	Trimruti shiksha prasar smiti	28	10 Aug 11
	Navachar Sansthan	30	12 ct 2011

2. Orientation training of ASHAs:

A total of 20 orientation meetings were conducted with ASHAs to familiarize them on evidence based maternal neonatal care. In Bundi district, they were also guided on the procedure to report maternal deaths. The total number of ASHAs who participated in these training programs included: 89 from Bundi, 980 from Bharatpur zone (4 districts) and 717 from Udaipur zone (6 districts).

3. Community awareness programs:

Several programs were carried out from 2011-12 to orient community members on the quality of delivery care. In Bharatpur, our staff put up a stall on evidence based delivery care in exhibitions held during a festival (Dussahra) and also during other community events. The total number of persons who were reached during these programs is as follows:

	Number of persons	Dates
Bharatpur	~ 28000	16 days (between Aug 2011 to Feb 2012)
Udaipur	Exhibition	904 (5 sessions)
	Mamta Diwas	198 (3 sessions)
	Panchyat meetings	273
	College workshop	141
	Community meeting	373

4. Maternal death review in Bundi district:

In Bundi district, ARTH provided technical support to the government to review the maternal deaths. ARTH staff members carried out verbal autopsies of 26 maternal deaths. The data was analyzed at Udaipur by senior personnel and the report was shared with district administration. For activities in Bundi district, ARTH used the funds of this project, along with the supplementary budget from district administration for specific activities such as training

programs. Because of special efforts in the district to address maternal health, the district collector received an award from the state.

5. Other advocacy activities: People’s accounts of maternal deaths in Jodhpur:

ARTH along with other civil society groups have participated in documenting the experiences of families (mostly husbands) of women who suffered maternal deaths while delivering in a medical college hospital in Jodhpur from Feb-March 2011. A review by the central government committee was written in the form of a report. In a meeting with civil society members in Jaipur, the findings of the Jodhpur report were shared with approximately 50 persons, in order to highlight the issue of quality of care within the medical college.

III. Research and Evaluation

NAVJEEVAN : Impact of promoting referrals for newborns with danger signs and strengthening first referral level facilities on newborn survival (A cluster randomized trial)

Time frame	2009-2012
Objective	To evaluate the effectiveness of an intervention comprising: <ul style="list-style-type: none"> • Promoting referral for newborns with danger signs in the community. • Strengthening Community Health Centres (first referral level facilities) for improved management of labour, essential newborn care at birth, management of severely ill newborns and reducing neonatal mortality in a setting where IMNCI (community and facility level) is being implemented.
Population/ area of coverage	16 blocks across 8 districts of southern Rajasthan with 8 blocks each being intervention and control areas
Sponsor	WHO, UNICEF
Collaborating institutions	Government of Rajasthan, WHO, UNICEF
Total budget	INR 24,510,394

1. Intervention Introduction Phase

The activities that took place during the period of introduction of the intervention from September 2010 to January 2012 have been grouped in the following four categories:

- I. Baseline facility assessments on neonatal care facilities and establishment of Newborn Stabilization Units (NBSUs) in CHCs
- II. Training of CHC staff (Medical officers and nurses) on Facility Based Newborn Care (FBNC)
- III. IMNCI Refresher Training of ASHAs
- IV. Establishment of helpline service for sick newborn referral

I. Baseline Facility Assessment on Neonatal Care facilities and establishment of Newborn Stabilization Units (NBSUs) in CHCs

As a part of the introduction phase, two annual facility assessments of CHCs were conducted

in 2010 and 2011 in order to assess the existing status of neonatal care equipment, supplies, drugs and staff situation. These reviews were conducted by direct observations of labour rooms, newborn care corners and newborn stabilization units. The questionnaire used for these assessments was based on the *Indian Public Health standards for neonatal care in CHCs* and *UNICEF Toolkit for establishing newborn care corner and stabilization units*.

Major Findings:

The data for all 8 intervention CHCs was analyzed in MS Excel and individual results for each CHC were captured in the form of a *CHC report card* with specific recommendations for how each location could improve their newborn care facilities. The reports from the initial assessment conducted in October of 2010 revealed deficiencies in the availability of equipment, supplies, drugs and human resources for newborn care. Most of the CHCs (7/8) had a newborn care corner in the labour rooms for immediate newborn care whereas none of them had a separate stabilization unit for treatment of sick newborns.

Following the initial facility assessment (2010), the report cards for all intervention CHCs were shared along with specific recommendations and future steps with block, district and state level health officials through regular meetings, written reports, personal and telephonic follow up from December 2010 through February 2011 so as to mobilize the government health officials and the NRHM to strengthen newborn care facilities at these 8 CHCs. CHC Gangapur and Partapur were the first ones to meet the requirements and hence NBSUs were initiated with the help of a pediatrician in Gangapur (January, 2011) and a gynecologist and nurses in Partapur (March, 2011). The NBSU in CHC Chota Dunga was initialized by May, 2011 after completing minor repairs and the procurement of supplies. Two nurses from Chota Dunga and 2 from Partapur were oriented on sick newborn care at FBNC Banswara for 4 days on an ad hoc basis in April, 2011 after which the units were started. The same staff was additionally deputed to attend an NBSU training that was held between June-July 2011.

In the second assessment (October, 2011), NBSUs were established in 7 out of 8 CHCs. There were improvements in the status of equipment, supplies and drugs for perinatal and neonatal care. All CHCs were equipped with radiant warmers and phototherapy machines, supplies such as mucus suckers, IV cannula, digital thermometer, cord clamps and an oxygen cylinder while catheters, pediatric drip sets and nasogastric tubes were available at most of the CHCs .

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Issues with CHC Kapasan included reluctance of officials in charge to shift from the old CHC to a new building. There was no space at all in the old CHC to establish NBSU and hence, despite the availability of equipment and supplies, NBSU establishment was delayed. During September, 2011 the new JSY ward in CHC Ganoda was undergoing construction on first floor which took almost a year (July 2010 – August 2011) and is still ongoing. A room on the ground floor near to post natal ward and labour room was vacated for NBSU and equipment was installed for establishing the NBSU.

Changes in selection of CHCs for NBSUs by the Department of Medical, Health & FW - impact on the timely implementation of the trial

As per the announcement by the State Health Minister, one hundred CHCs were selected and listed, by the Department of Health and Family Welfare in 2010 for establishing NBSUs. The Navjeevan trial selected 16 out of this list located in southern Rajasthan districts, for carrying out a baseline survey that commenced in Oct 2010. The list of 100 selected CHCs was later changed by the health department, whereby two CHCs -- CHC Chota Dunga and Ganoda were dropped from the list for NBSU establishment. Hence extra efforts had to be invested to again include both of these CHCs in the list, followed by allocation of the NRHM budget for NBSU (Rs.1,25,000 including minor repairs and supplies), equipment including radiant warmers and phototherapy machines and additional human resources. However, in 2011 the state government brought out a revised list of (only) 40 CHCs for establishing/ strengthening NBSUs (NRHM letter no. CH/NBSSU/11/9697) and allotted Rs 25,000 each for consumables and drugs. The list included 3 Navjeevan Control CHCs, but excluded one intervention CHC – Ganoda. The project staff again had to work to re-include Ganoda as per the original selection. Thus, post-hoc changes in the list of CHCs for establishing NBSUs delayed their establishment and hence the measurement phase of the trial.

NBSU Gangapur (Bhilwara)

II. NBSU Training of CHC staff



In order to initiate Newborn Stabilization Units and build capacities of CHC staff, medical officers and nurses of 8 intervention CHCs were trained on “Facility Based Newborn Care” (FBNC). Since there was no separate module for NBSU training, course material was developed by adapting the UNICEF-NNF FBNC module, elements from the F-IMNCI module and some guidance material from SNL publications. The module was translated into simple Hindi. The training was carried out at Children’s Hospital, Udaipur through

the combined efforts of the Department of Medical, Health and Family Welfare, Rajasthan, UNICEF and the Department of Pediatrics, RNT Medical College. Three internal facilitators (2 pediatricians and 1 nursing tutor) and external facilitators arranged by UNICEF (pediatricians from NNF) facilitated theory sessions and skill stations over four days. Two weeks of clinical observership that followed after the theory was facilitated by the nursing tutor and other staff of the NICU.

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Three batches of NBSU training had been completed in 2011 in collaboration with Department of Medical, Health and Family Welfare, UNICEF and Department of Pediatrics, M.B. Hospital, Udaipur. There was a turnover of staff in the reporting period which led to change of postings for some of the trained staff and deputation of new doctors and nurses who required NBSU training. Efforts were made by the project team to organize more batches of NBSU training which could not be made possible due to multiple reasons.

Theory sessions (newborn care)	Labour Monitoring and MIS sessions (By ARTH)	Clinical Postings in NICU	Local Facilitators	External facilitators arranged by UNICEF	From
Batch 1	22-25 June 2011	2 & 9 July, 2011	26 June - 9 July, 2011 (posted in NICU and labour room on rotation basis)	Dr.Suresh Goyal Dr.Devendra Sareen Dr.Lakhan Poswal Saifuddin Khan (Dept. of Pediatrics, M.B.Hospital, Udaipur)	Dr.Sunita Bhatia Dr.Sadhna Mehta Dr.Rajpreet Soni Kasturba Hospital, New Delhi Fortis Hospital, Jaipur
Batch 2	20-23 July, 2011	25-26 July, 2011	24 July - 6 Aug, 2011 (posted in NICU and labour room on rotation basis)	Dr.Anuradha Gowil Dr.Ashish Jain	Kasturba Hospital, Hindu Rao Hospital New Delhi
Batch 3	16th-19th Nov,11	28th -29th Nov,11	20th Nov - 3rd Dec,11	Dr.Somshekhar	

III. IMNCI Refresher Training of ASHAs

These trainings were conducted between October and November...for 571 ASHAs in selected clusters to build their capacity for identifying danger signs in newborns and refer them to CHC by utilizing the helpline service.

IV. Establishment of helpline service for sick newborn

The helpline service for sick newborns was established in all 8 intervention blocks by February 2011 in order to provide timely referral transport for sick newborns up to the CHC along with community mobilization activities to promote utilization of the helpline. The helpline also coordinates with 108 ambulance service of NRHM, Rajasthan.

Monitoring of NBSUs (January 2012 onwards)

After the establishment of NBSUs in all 8 CHCs, the intervention was monitored on a monthly basis by project staff through direct observation of newborn care services in order to review the following and provide feedback to CHC staff for improving services at CHC:

- Labour monitoring and perinatal care
- Status of newborn care in labour room, postnatal ward and Newborn Stabilization Unit.
- Further to completion of the training, follow up visits were made (July and August, 2011) to monitor performance of trained staff and CHC in-charges were asked to arrange nurse duties in a manner that at least one trained staff is available in all three shifts round the clock.

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Role of Project team in CHC monitoring:

All 8 CHCs were visited on a bimonthly basis by a Medical Associate who facilitated various activities at CHC, block and district level to ensure functioning of NBSUs. In addition, a senior Director from Department of Health and Family Welfare (retd.) provided inputs to the intervention as a consultant (6-7 days per month). His role included:

- Attending monthly meetings of helpline workers to explore the issues encountered. These issues related to quality of care at CHCs provided to helpline referred cases and

- were, in turn, shared with concerned health officials in order to fix the deficiencies.
- Regular meetings with CMHOs and other health officials of concerned districts in order to provide feedback and initiate actions for improving neonatal care at the CHCs.

Activities conducted by the project team:

- Feedback on results of facility assessments was given to CHC in charges and concerned doctors and nursing staff of all 8 CHCs in order to ensure functioning of installed equipment and procurement of supplies and drugs by utilizing NRHM budget.
- Written feedback on performance of NBSUs in 4 CHCs and issues related to sick newborn treatments was provided to CMHOs and DPMs of Banswara and Pratapgarh districts in order to apprise them of the existing situation and plan the scope for improvements by taking further action to improve quality of newborn care at CHC Partapur, Chota Dungra, Ganoda and Choti Sadri.

Actions taken:

- CMHO Banswara was apprised about status of CHC Ganoda (est. in December, 2011) for extra support from the district with regards to procuring supplies and drugs and to instruct doctors and nurses to initiate admissions of sick newborns in NBSU.
- CMHO Pratapgarh issued a written notice to concerned CHCs in the district (Choti Sadri) with instructions to take actions on the required fronts listed below (letter no.98 dated 30/5/12).
 - Procurement of supplies and drugs for sick newborn care and provide all medicines from CHC (stop out of pocket expenses for family)*
 - to prepare a separate indoor ticket for admitted newborns*
 - provide return transport to all newborns brought to the CHC for treatment through JSSK*
 - stabilize all sick newborns at the NBSU before referral to higher centers*

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- Bimonthly observation of deliveries and newborn care was conducted in all 8 CHCs in order to assess the quality of care and provide feedback to concerned staff (doctor, nurses, CHC in charge) to improve practices.
- Feedback on cases of sick newborns referred through Navjeevan Helpline : Issues related to quality of care for helpline referred sick newborns was reported to staff of all 8 CHCs in order to ensure effective management of helpline referred cases.

Project Advisory Committee meeting, 17 February, 2012

A PAC meeting was convened in Jaipur in order to review the progress of the project with the Department of Medical, Health and Family Welfare, Government of Rajasthan. The meeting was chaired by Mrs. Gayatri Rathore, MD, NRHM, Rajasthan and attended by the following members:

Dr.B.L.Sharda, Director, Family Welfare

Dr.M.L.Jain, Ex.Director, Family Welfare

Dr.Avtar Singh Dua, Health specialist, UNICEF, Jaipur

Dr. Anil Agarwal, Health Officer, UNICEF, Jaipur
 Dr. Sitaraman, Pediatrician, SMS Medical College, Jaipur
 Dr. Siddharth Ramji, Pediatrician, New Delhi
 Representatives from ARTH

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Activities conducted in the project from September, 2010 to March, 2011 were reviewed through a presentation and a status report. Operational issues encountered in establishment and functioning of NBSUs in 8 CHCs were discussed with inputs from the project team and participants from UNICEF. The MD, NRHM guided the state health officials and UNICEF in order to initiate actions on key issues related to improvement of neonatal care at the CHC level and performance of NBSUs along with JSSK implementation in 8 clusters. Detailed notes on the meeting are available.

Since January, 2012, sick new born care has been initialized in all 8 CHCs with levels and quality of care provided that varies across the CHCs. The following table depicts an estimate of broad frequency of treatment practices followed over all 8 CHCs as observed in routine visits during the reporting period:

Assessment of Neonatal Care Practices

Regularly practiced	Occasionally practiced	Almost never practiced	
<i>Essential newborn care and post natal care</i>	<ul style="list-style-type: none"> - Wrapping and drying of newborn - Suction by mucus sucker/suction machine - PPV by Ambu Bag - Oxygen Inhalation through mask/prongs - Temperature maintenance by radiant warmer (all 8 CHCs) 	<ul style="list-style-type: none"> - Counselling of mother on early breastfeeding and KMC for LBW babies. - Visit to post natal ward to check newborn danger signs and breastfeeding 	
<i>Sick newborn care</i>	<ul style="list-style-type: none"> - Oral drops for fever, sepsis, vomiting etc. - Vitamin K injections for LBW newborns - IV fluids (7/8 CHCs) - IM/IV Antibiotics for Sepsis (7/8 CHCs) 	<ul style="list-style-type: none"> - Oxygen Administration for respiratory distress, ARI etc. 	<ul style="list-style-type: none"> - Phototherapy - Endotracheal Intubation - Chest compression - Medication for resuscitation - Management of convulsions/shock - Gavage feeding for LBW

KILKAARI: Sustainable Programme Incorporating Nutrition & Games (SPRING)

Background:

Kilkaari is an integrated intervention to address child health, nutrition and development. The proposed intervention is targeted at children below two years of age and starts from pregnancy itself. This program is based on the premise that, when implemented together, interventions that promote growth and psychological development have a greater effect than when carried out separately.

Kilkaari is designed in collaboration with the London School of Hygiene & Tropical Medicine and University of Liverpool, UK, as a multi-country cluster randomized control trial. One site of the trial is in Udaipur, Rajasthan, India where ARTH is the implementing agency and the other is in Rawalpindi, Pakistan.

Kilkaari worked in close collaboration with existing government programmes to develop a community based integrated health, nutrition and developmental intervention package that is appropriate for delivery at scale. It is being delivered by the existing cadre of community based agents (CBAs), i.e. ASHAs (ASHA *sahyogini* in Rajasthan where she works both for the ICDS and the health departments), through home visits during pregnancy, immediately post birth, the post-partum period and infancy.

Objective:

To develop an innovative, feasible, affordable and sustainable community-based approach that can reach all mothers and children, in a way that enhances mothers' and the entire family's capacity to provide optimal care, leading to synergistic improvements in child survival, growth and development.

Progress in 2011-12:

This was the first year of the five year programme (2011-2016) and the team carried out the following activities during the year:

1. Pre-formative phase (April-June 2011)

The team conducted a brief review of children's health, nutrition and development related policies, and programmes implemented both by the government and non-government sector. It involved an analysis of the relevant aspects of programmes such as the Integrated Child Development Services Scheme and National Rural Health Mission, along with the community's behaviour and perception about child care and utilization of related government services for children under 2 years of age.

2. Formative phase (July-December 2011)

The purpose of conducting formative research was to better understand the local context so as to ensure that the intervention to be developed is appropriately targeted, focusses on the behaviours that can and need to be changed, utilizes appropriate behaviour change messages and approaches, and to determine what health systems strengthening is required to deliver the intervention. We first carried out a household survey in two panchayats (village councils) each of two blocks of Udaipur district to identify families with children less than 2 years of age and pregnant women. A team of trained researchers then carried out a qualitative study in these two blocks, to collect information on child care aspects from caretakers of children under 2 years of age along with their interaction with the government service providers. In-depth interviews with mothers, fathers, grandmothers and pregnant women, narratives with mothers to capture a typical day in the life of a mother and child and observations of children in their home environment were conducted. The team also conducted interviews with village level service providers like ASHAs and *anganwadi* workers and their supervisors to understand their roles and the constraints that they may be facing in their work. The formative research data thus collected was analyzed and compiled in the form of a report.



3. Intervention development (January-March 2012)

The team shared the formative research findings with state and district officials. On the basis of formative research findings and discussion with government officials, the team commenced development of the intervention. This began with creating a behaviour change matrix that highlighted the behaviours that needed to be changed in the community, key people who influence these behaviours, barriers to and facilitators for the behaviours and the possible communication channels through which the intervention may be delivered. Further we started developing the intervention protocol, tools for baseline data collection, training curriculum for ASHA sahyoginis and home visit sessions to be delivered during monthly home visits.

The intervention team underwent a training covering practical aspects of early child development that included understanding the play and stimulation activities for children under two years of age.

4. Plan for next year

The intervention will be piloted and finalized for roll out. Simultaneously trial areas will be decided and baseline data collected and analyzed for randomization. Once the randomization is done and intervention sectors are known, the intervention will be rolled out.

SAMPOORNA: Severe Acute Malnutrition- Impact of three feeding regimens on recovery of children from severe acute malnutrition in India

The SAM project was in its planning and set up phase over the last year, with February 2013 as its intended start date for the pilot phase to begin.

Study Objective:

To evaluate the impact of three home based regimens using centrally produced ready to use therapeutic food (RUTF), locally produced RUTF and augmented home prepared foods (AHPF) promoted for management of uncomplicated SAM in children aged 6-59 months on recovery, defined as greater than or equal to $-2SD$ WFH and absence of pedal edema, by 16 weeks after enrolment in the study.



Study Sites

- The research study will be held in 21 villages of Rajsamand district and 9 villages of Udaipur district of southern rural Rajasthan
- Research offices are located at ARTH office, Bedla, Udaipur and study clinic at Kuncholi, district Rajsamand.
- A production facility of RUTF-L (locally produced ready to use therapeutic food) at Pula, Udaipur city.

Inclusion Criteria

- Age 6 to 59 months
- SAM, defined as weight for height less than $-3SD$ of WHO standard or edema both feet or both.

Exclusion Criteria

- Complicated SAM
- SAM with poor appetite
- Known allergy to top milk or peanut
- Likely to leave the study area permanently in the next 16 weeks

Feeding Regimens for home management of SAM

The interventions under evaluation include home feeding approaches using

1. A centrally produced Therapeutic food
2. A locally produced therapeutic food for children 6-59 months age who have been identified with uncomplicated severe acute malnutrition. It is composed of peanut paste, milk solids, sugar, oil, emulsifier and a micronutrient mix
3. Children randomized to the comparison feeding regimen will receive augmented home-prepared foods (home prepared high energy foods with recommended micronutrients supplements), and fuel (where availability of fuel is found to be a constraint in preparing food for the child).

Outcomes:

- Recovery from SAM by 16 weeks after enrolment.
- Secondary outcomes include child mortality and hospitalization, diarrhea, weight gain and perceptions of families, health providers and ICDS functionaries about feasibility of RUTF and augmented home based foods use.

Current stage of implementation of trial:

Preparations: The study area was selected, staff were recruited and trained, the anthropometry teams were trained and standardized, the local unit for production of RUTF was established and tested, the standard operating procedures have been developed and fine-tuned, and data management systems have been tested.