



Maternal, Newborn and Child Health and Nutrition Practices in Select Districts of Jharkhand

October 2012

Introduction

The Government of Jharkhand (GOJH) is working to improve the maternal, newborn and child health and nutrition (MNCHN) status in the state through implementation of the National Rural Health Mission (NRHM) and other programmes. As per these priorities, GOJH requested the USAID-funded Vistaar Project (2006-2012) led by IntraHealth International to provide technical assistance (TA)¹ in 15 districts of Jharkhand (Chatra, Deoghar, Garhwa, Giridih, Godda, Gumla, Hazaribagh, Jamtara, Khunti, Koderma, Latehar, Pakur, Ramgarh, Sahebganj and Simdega) encompassing a total rural population of 18.8 million².

The goal of the Project was 'taking knowledge to practice' to improve maternal, newborn and child health and nutrition status and the Project worked with the Government of India (GOI), GOJH and Government of Uttar Pradesh. Starting in 2007, the Project team facilitated a series of evidence reviews and incorporated the findings into district technical assistance plans. Based on the evidence and GOJH priorities, these plans focused on improving frontline worker performance and strengthening Village Health and Nutrition Days (VHNDs). The Project support focused on Auxiliary Nurse Midwives (ANMs) within the Department of Health and Family Welfare (DHFV) and *Anganwadi* Workers (AWWs) within the Department of Women and Child Development (DWCD) and on improving collaboration between the departments.

This brief presents data showing improvements in most components of antenatal, delivery and newborn care practices (such as tetanus vaccination, iron and folic acid [IFA] receipt, and early initiation of breastfeeding). It also reveals areas where there has been less progress, such as improved food consumption by pregnant and lactating women, as well as by infants over six months of age. The brief also describes how key processes, including increased interactions with frontline workers, improved counselling and service use at VHNDs, contributed to these outcomes.

Technical Intervention Areas

The Project, DHFW and DWCD worked together in these key areas, as per the agreed upon district TA plans:

- Improving home visits and counselling skills:** The Project team worked with district officials to improve ANMs' and AWWs' interpersonal communication (IPC) skills, through development of an in-service education programme largely built on existing government structures, such as regular monthly meetings of frontline workers. In addition, the Project provided technical assistance to the DHFW and DWCD to develop and promote use of job aids including a flipbook, a counselling guidebook with key messages and a set of frequently asked questions to assist ANMs and AWWs in interpersonal communication.
- Strengthening monitoring and supportive supervision:** The Project worked with the DHFW and DWCD to build the capacity of the supervisory cadres, including encouraging them to shift from a punitive supervisory approach to mentoring and providing support and problem-solving assistance to the frontline workers to improve their performance. The Project helped to develop and introduce a supervisory checklist, which also provided monitoring data.
- Optimising monthly meetings:** The Project supported DHFW and DWCD officials at district and block level to better use their regular monthly meetings as opportunities for using data to assess progress and solve problems and for short capacity-building sessions.
- Strengthening Village Health and Nutrition Days:** The Project supported the DHFW and DWCD to expand the quality and coverage of VHNDs. The Project facilitated orientation and increased awareness of the VHND guidelines, improved joint planning, and introduced a VHND checklist for monitoring and data collection. In addition, the Project facilitated convergence between DHFW and DWCD

and promoted the use of data and joint reviews of VHND achievements during regular meetings.

- **Integrating a focus on equity and gender:** The Project team led gender and equity reviews to inform the intervention efforts, and ensure that information and services reached women and children from disadvantaged groups. All systems strengthening efforts incorporated a focus on addressing equity and gender issues.

Endline Evaluation

For evaluation, the Project contracted external agencies to conduct a baseline household survey from December 2008 to February 2009 and an endline survey from January to March 2012. These surveys were conducted in five of the Project-assisted districts (Godda, Gumla, Khunti, Koderma and Sahebganj), to assess maternal, newborn and nutrition knowledge and practices. The selected external agencies were: GFK MODE Private Limited for the baseline and Centre for Operations Research and Training (CORT) for the endline survey. The objective of the endline survey was to assess changes in antenatal, delivery, postnatal, newborn and infant care knowledge and practice.

The baseline and endline surveys targeted 500 currently pregnant women (CPW), 500 recently delivered women (RDW) with 0-5 month old infants, 500 RDW with 6-11 month old infants and 320 household decision-makers in urban and rural areas, using a multi-stage cluster sampling technique. Household decision-makers included mothers-in-law, fathers-in-law, parents, and husbands. The Project was designed to support government priorities and programmes, particularly NRHM, and most interventions and technical support were aimed at rural areas. Therefore, although the sample included urban areas, this analysis focuses on rural populations and the findings are from rural areas only. The rural sample sizes for the five districts for the baseline and endline survey are given in Table 1.

Table 1: Rural sample sizes for baseline and endline surveys

Survey	CPW	RDW			Household decision-makers
		With infant aged 0-5 months	With infant aged 6-11 months	All	
Baseline	2,001	2,175	1,853	6,978	1,180
Endline	1,948	1,981	1,908	6,154	1,207



Key Findings

The key findings from the endline and baseline surveys are presented in sections on: characteristics of the survey respondents; improved MNCHN practices; increased interactions with frontline workers; improved counselling by frontline workers; and service use at VHNDs. Asterisks (*) in the tables and graphs highlight when there is a statistically significant difference, at 5 percent level of significance, between baseline and endline data.

Characteristics of the Survey Respondents

The characteristics of respondents were mostly similar in baseline and endline. Almost half of the women surveyed were from other backward classes and between 28 (CPW) to 35 (RDW) percent were from scheduled tribes. The predominant religion among recently delivered women was Hindu at 55 percent while Muslims and Sarna were roughly 18 percent each and Christians at 9 percent. The profile of currently pregnant women on these characteristics were very similar.

The endline sample had fewer respondents from low standard of living households than the baseline sample. For example, for recently delivered women the baseline was 58 percent while the endline was 23 percent from low standard of living households. This trend was the same for currently pregnant women respondents. Also, the literacy levels and participation in formal education among women was modestly higher for endline survey respondents. Among recently delivered women 64 percent had no formal schooling or were illiterate at baseline, compared to 54 percent in the endline sample.

Improved MNCHN Practices

The endline survey revealed a number of improvements in MNCHN practices, including in antenatal care (ANC), delivery care and newborn care.

Antenatal care: Pregnant women reported receiving more antenatal care services at endline than three years earlier

suggesting that systems for providing ANC services and ensuring women are accessing ANC have improved. Women who received three or more ANC visits increased to 65 percent at endline, compared to 44 percent at baseline (Table 2).

The data also indicates that pregnant women were getting more complete ANC services with significantly more women reporting receiving weight monitoring, abdominal examination, blood pressure and blood and urine tests compared to baseline. Similarly, counselling has improved and more pregnant women received nutrition advice (79% at endline compared to 66% at baseline) and advice to have an institutional delivery (73% at endline compared to 41% at baseline). Notably 21 percent of recently delivered women reported that they had received 100 IFA tablets during pregnancy compared to 12 percent at baseline. Receipt and consumption of IFA improved, however, the level was still low due to significant stock shortages in the public health delivery system during the intervention period.

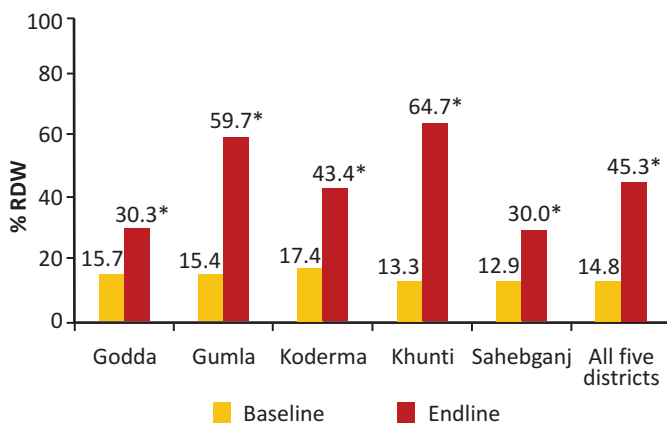
Table 2: Antenatal care services received by recently delivered women

ANC	% RDW	
	Baseline	Endline
Services received		
Received 3+ ANC visits	43.9	65.0*
Received 1 tetanus injection	91.2	96.7*
Received 100 IFA tablets/syrup	12.1	20.9*
Consumed 100 IFA tablets/syrup	8.5	14.0*
Received deworming medication	6.5	9.2*
Received full ANC⁽¹⁾	7.8	10.7*
Tests/check-ups received		
Weight monitoring	46.7	77.3*
Abdominal examination	50.1	67.1*
Blood pressure measurement	36.9	65.5*
Blood test	34.8	53.0*
Urine test	34.5	52.8*
All five tests/check-ups	18.6	35.7*
Advice received		
Nutrition advice	65.6	79.2*
Advice to have an institutional delivery	40.6	72.9*
Advice on delivery date	26.9	41.9*
All three advices	19.1	36.0*
Number of recently delivered women with infants 0-11 months	4,028	3,889

⁽¹⁾ Full ANC: At least three visits for antenatal care, one TT injection received and 100 IFA tablets or adequate amount of syrup consumed (same definition used in DLHS-3¹)

Place of delivery: Many more women were delivering at health facilities. This is likely a result of the *Janani Suraksha Yojana* (JSY) programme which offers cash incentives to deliver in a health facility, however, the improved IPC skills of frontline workers are a contributing factor for motivation to have an institutional delivery and awareness of the JSY scheme. Institutional deliveries at government and private facilities increased from 25 to 56 percent overall. At government facilities, deliveries increased from 15 to 45 percent. Institutional births in government facilities increased across all five districts, but were most pronounced in Khunti and Gumla districts. These two districts have more ANMs trained as skilled birth attendants, and road conditions are better, which supports the transportation of women for accessing health facilities (Figure 1).

Figure 1: Deliveries at government health facilities



The endline data also showed that almost 80 percent of those who delivered in a government facility received the JSY incentive payment.

This result is even more impressive because the largest reported increase in deliveries at government facilities was among women from scheduled tribes (from 9% to 51%). In addition, 40 percent of women with no education delivered in a health facility compared to just 12 percent earlier.

Maternal nutrition: The endline showed that nutrition and anaemia related knowledge among pregnant and recently delivered women has improved. While at baseline only one in three recently delivered women had ever heard of anaemia, at endline awareness was close to universal at 90 percent. More women also knew the causes of anaemia and how to prevent it (such as by increasing consumption of green leafy vegetables) than at baseline. This suggests that nutritional counselling is reaching beneficiaries. As noted earlier, receipt and

consumption levels of IFA also increased (Table 2), however, consumption of foods that can prevent anaemia did not improve.

GOI health sector guidelines recommend that all women eat an additional meal during pregnancy and lactation. While more women reported receiving nutrition advice during pregnancy (from 66% at baseline to 79% at endline), the data does not show progress in the actual food consumption practices during pregnancy and lactation.

Table 3 shows that 71 percent of currently pregnant women consumed the same number of meals before and during pregnancy with only a modest increase (from 8% to 11%) in those who had an extra meal. However, there were reductions in the recently delivered women who had an extra meal during pregnancy or lactation. This is a concerning trend and may reveal the difficulty of changing dietary practices which have deep social and cultural influence and significance. This negative trend could possibly be related to the increasing cost of food during this intervention period, or due to increasing workload and outside work for women, resulting in time restrictions for food preparation and consumption.

Table 3: Consumption of an extra meal during pregnancy and lactation period

Consumption of extra meal	Baseline	Endline
Consumption of meal during pregnancy period by CPW	% CPW	
Less than before	23.7	18.3*
Same as before	68.3	71.0*
Had extra meal	8.1	10.8*
Number of currently pregnant women	2,001	1,948
Consumption of meal during pregnancy period by RDW	% RDW	
Less than before	22.8	15.4*
Same as before	59.0	71.2*
Had extra meal	18.2	13.4*
Number of recently delivered women with infants 0-11 months	4,028	3,889
Consumption of meal during lactation period by RDW	% RDW	
Less than before	5.1	13.4*
Same as before	70.4	80.1*
Had extra meal	24.5	6.4*
Number of recently delivered women with infants 0-11 months	4,028	3,889

Newborn care: There have been improvements in several newborn care practices. Women with infants 0 to 5 months were more likely to initiate early breastfeeding within one hour of birth at endline (from 12 to 31%) and colostrum feeding increased from 53 to 72 percent. Early breastfeeding initiation rates were highest among women who delivered in a government health facility (47%). The practice of not giving pre-lacteal feeds improved from 54 to 72 percent, and this was even higher for women who delivered in a government health facility (86% at endline). The proportion of newborns that were weighed significantly increased from 25 to 59 percent (Table 4).

Table 4: Newborn care practices followed by recently delivered women

Newborn care practices	% RDW	
	Baseline	Endline
Initiated breastfeeding within one hour of birth	12.1	30.7*
Newborns given colostrum	53.2	72.0*
No pre-lacteal feed given to the newborn	54.1	71.6*
Newborns weighed at birth	24.9	59.2*
Newborns' bathing delayed by at least three days or more of birth	22.9	48.6*
Newborns' bathing delayed for six days (after <i>chhatti</i>) or more of birth	17.1	38.1*
Nothing applied after cutting the cord and before it fell off	NA ⁴	38.4*
Number of recently delivered women with infants 0-5 months	2,175	1,981

The improvements in newborn care practices were similar by caste and socio-economic status, indicating that the messages and services are also reaching the disadvantaged groups and that regardless of socio-economic differences, more women are following recommended newborn care practices.

Infant feeding: GOI infant feeding guidelines call for immediate and exclusive breastfeeding for the first six months followed by the introduction of age-appropriate complementary foods and continued breastfeeding for up to 24 months. The baseline and endline data show that breastfeeding practices improved in the immediate period after birth.

Complementary feeding practices did not show improvement and may be declining. The data suggests many infants were not getting at least two servings a day. Although improved over baseline, levels of diverse complementary foods (from three or more food groups) were still very low. As with maternal food consumption, this may be due to the difficulty of changing

dietary practices, the increasing cost of food during this time period or increasing workloads and time restrictions on women (since complementary feeding of an infant is very time-consuming) (Table 5).

Table 5: Infant feeding practices reported by recently delivered women

Infant feeding practices	% RDW	
	Baseline	Endline
Infants aged 6-11 months exclusively breastfed for at least up to six months	NA ⁴	65.0
Infants aged 6-11 months currently breastfed and received solid or semi-solid food in the 24 hours preceding the survey	78.5	77.2
Infants aged 6-11 months currently breastfed and received food from three or more major food groups in the 24 hours preceding the survey	10.2	21.4*
Infants aged 6-11 months currently breastfed and received semi-solid and/or solid foods in the 24 hours preceding the survey and had two servings per day	39.8	33.7*
Number of recently delivered women with infants 6-11 months	1,853	1,908

Increased Interactions with Frontline Workers

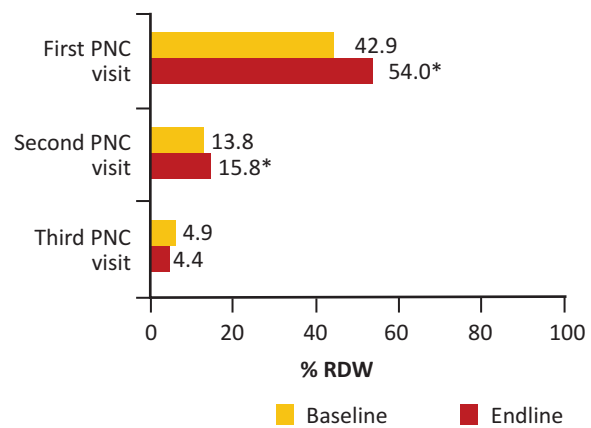
Increased interactions between mothers and frontline workers, and improved counselling during home visits and VHNDs have likely contributed to the improvements in ANC, newborn care and early breastfeeding. The baseline and endline surveys showed that client provider contacts with frontline workers have increased throughout the antenatal, postnatal and newborn care periods (Figures 2 and 3). In addition, the data showed that ANMs and AWWs have been effective in reaching women from disadvantaged groups.

Antenatal care visits: As indicated in Table 2, the number of contacts between pregnant women and frontline workers has increased. Sixty-five percent of women received three or more ANC visits compared to 44 percent at baseline. One source of ANC services is home visits, and at endline, 59 percent of women received ANC services through a provider at home, compared to just 13 percent at baseline. Pregnant women reported frequent contact with AWWs (85%), ANMs (76%) and *Sahiyyas* (68%). During their last pregnancy, recently delivered women reported an average of 3.5 contacts with AWWs, 2.9 with *Sahiyyas* and 2.0 with ANMs.

Postnatal care visits: As part of counselling, AWWs and ANMs recommend postnatal care (PNC) visits. More women reported receiving a PNC visit following delivery (from any provider), at

endline (54%) than at baseline (43%). A modest increase was seen in the proportion of women receiving a second postnatal visit (16%) but provision of a third postnatal visit did not improve (Figure 2). Women who delivered at a facility were most likely to receive at least three PNC visits and the first visit was usually at the facility where the delivery occurred.

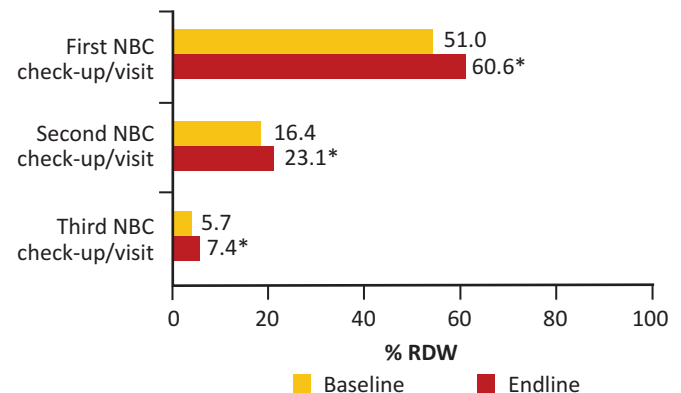
Figure 2: Postnatal care visits[#] reported by recently delivered women



[#] By any provider (e.g. Medical Officer, Staff Nurse, ANM, AWW or *Sahiyya*)

Newborn care visits: Frontline workers also promote newborn care visits. Sixty-one percent of newborns had at least one visit (by any worker), compared to 51 percent at baseline. Further, 23 percent received a second visit compared to 16 percent at baseline, highlighting that frontline workers are paying increasing attention to supporting the health of newborns (Figure 3). As in other areas, women who delivered in a health facility were much more likely to receive newborn care visits from any worker, compared to those who delivered at home and the first visit was generally in a facility.

Figure 3: Newborn care visits[#] reported by recently delivered women



[#] By any provider (e.g. Medical Officer, Staff Nurse, ANM, AWW or *Sahiyya*)

Improved Counselling by Frontline Workers

Improved Counselling: Interactions with ANMs and AWWs appear to be increasing women’s knowledge about recommended pregnancy and newborn care practices, as evidenced by their recall of counselling messages. During endline, recently delivered women recalled receiving a number of messages related to ANC and birth preparedness. Recall rates for newborn care were high for most messages, especially around initiation of breast feeding within an hour of birth, exclusive breastfeeding up to six months, getting the newborn weighed and keeping the newborn warm (Table 6).

Table 6: Recall of counselling messages on newborn care received during pregnancy

Newborn care messages	% RDW counselled by ANM		% RDW counselled by AWW	
	Baseline	Endline	Baseline	Endline
Getting newborn immunised (OPV-0 and BCG)	30.0	39.0	21.9	35.6
Colostrum feeding	NA ⁴	32.4	NA ⁴	26.3
Weighing the newborn	12.9	30.1*	11.1	32.1*
Exclusive breastfeeding up to six months	19.5	29.5*	10.4	32.4*
Initiation of breastfeeding within an hour of birth	18.2	29.5*	7.6	26.8*
Keeping the newborn warm	13.8	25.6*	6.3	16.9*
Drying and wrapping of newborn immediately after birth	14.0	24.8*	5.7	16.6*
Taking care of the cord	15.0	20.1*	9.8	12.1*
Not bathing newborn for seven days	NA ⁴	19.4	NA ⁴	18.1
Number of recently delivered women with infants 0-11 months	4,028	3,889	4,028	3,889

It is interesting to note that recall was lower for messages received after the delivery (across most messages). This could be due to less newborn care visits happening as compared to ANC visits, or could be due to lower receptivity of mothers in this time period.



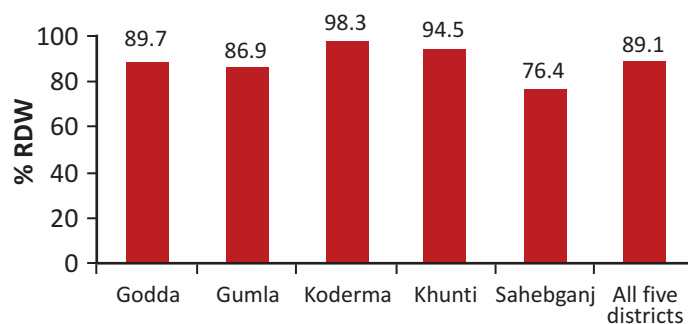
Service Use at Village Health and Nutrition Days

The improvements in ANC and newborn care may also be due, at least in part, to increased use and quality of VHND services. NRHM promotes VHNDs as an essential primary health care intervention and issued guidelines for VHNDs in 2008. At baseline, VHNDs were not happening regularly, as evidenced by very low levels of awareness and participation in VHNDs among frontline workers.

At baseline, 52 percent of *Sahiyyas* and 22 percent AWWs reported that no VHNDs had been held in their village in the previous three months. In contrast, 75 percent of AWWs surveyed at endline reported that three or more VHNDs had been held in their village in the three months preceding the survey.

The endline survey revealed high levels of participation in VHNDs by recently delivered women, with an average of over 89 percent of women attending a VHND during her pregnancy (Figure 4). In addition, women from all socio-economic segments were equally likely to attend VHNDs.

Figure 4: VHND participation among recently delivered women at endline



The endline data showed that recently delivered women reported receiving many services from VHNDs (Table 7).

Table 7: Utilisation of VHND services during pregnancy by recently delivered women

Services availed	% RDW
	Endline
Received TT injections	80.0
Received IFA tablets	51.9
Weighed monitoring	56.6
Blood pressure measured	33.6
Abdominal check-up done	32.3
Participated in group meetings/discussion on health issues	6.2
Number of recently delivered women with infants 0-11 months who participated in VHNDs during pregnancy	3,889

Group counselling and information sessions recommended in the VHND guidelines were not occurring in many places, as only six percent of recently delivered women reported participating in group discussions on health issues. One of the key services provided during VHNDs is the provision of supplementary nutrition. This increased significantly, with 73 percent of recently delivered women reporting that they received supplementary food at endline compared to baseline (36%). This increase was less pronounced among currently pregnant women, but increased from 37 percent to 41 percent over the period. All five districts show this improved access to supplementary nutrition over the evaluation period.



Conclusions

The Project collaborated closely with the DHFW and DWCD in Jharkhand to improve access to MNCHN services and knowledge and practices among the community, building on GOJH priorities and existing programmes. The endline survey showed increases in many areas, including ANC services, receipt and recall of counselling messages, increase in institutional deliveries, and improvements in newborn care practices, including early breastfeeding. The interventions of the GOJH and the Project have likely contributed to these improvements. These interventions included:

- Building counselling and communication skills for frontline workers (ANMs and AWWs), including introducing and increasing use of job aids
- Strengthening supervision and monitoring systems
- Strengthening VHNDs, especially through improved planning, monitoring and supportive supervision
- Optimising monthly meetings for inter-departmental convergence, frontline worker support and use of data for improved programming



Vision

IntraHealth International believes in a world where all people have the best possible opportunity for health and well-being. We aspire to achieve this vision by being a global champion for health workers.

Mission

IntraHealth empowers health workers to better serve communities in need around the world. We foster local solutions to health care challenges by improving health worker performance, strengthening health systems, harnessing technology, and leveraging partnerships.

For more information, visit www.intrahealth.org

The Purpose of the Vistaar Project

To assist the Government of India and the State Governments of Uttar Pradesh and Jharkhand in taking knowledge to practice for improved maternal, newborn, and child health and nutritional status

It is notable that the improvements occurred at scale (the Project worked in 15 districts and the survey results are from five districts) and the results were consistent across socio-economic levels, indicating success in reaching the poor and vulnerable. The results of this collaborative effort show the importance of working closely with government officials, supporting government priorities, and building on existing platforms and systems to achieve improvements at the population level. The data shows that there are still significant challenges, such as improving food consumption for mothers

and infants. However, the findings also show that there are a number of simple system-level changes and capacity-building efforts which can improve maternal and newborn services and practices, which should be scaled up in more districts of Jharkhand and beyond.

IntraHealth International, Inc. is the lead agency for the Vistaar Project. For more information on the Vistaar Project, see: www.intrahealth.org/vistaar

Technical assistance partners:



¹GOJH also asked the Project to provide technical assistance in the thematic areas of skilled birth attendance, adolescent health, Programme and Performance Budgeting, Human Resources for Health and results in these areas are covered in separate reports.

²Provisional Population Tables, Census of India 2011.

³International Institute for Population Sciences (IIPS), 2010. District Level Household and Facility Survey (DLHS-3), 2007-08: India.

⁴This data was not collected during baseline.