





The Uttar Pradesh Technical Support Unit Community Behaviour Tracking Survey: Results of the Second Round

May 2016





The Uttar Pradesh Technical Support Unit Community Behaviour Tracking Survey: Results from the Priority Blocks

May 2016

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MESSAGE

Maternal and child health is central to the goals of Government of Uttar Pradesh (GoUP). The primary objectives are to reduce the Maternal Mortality Ratio (MMR), Infant Mortality Rate (IMR), and the Total Fertility Rate (TFR). With this premise, the Government of Uttar Pradesh engaged with the Bill & Melinda Gates Foundation. The partnership extends a techno-managerial assistance to GoUP in reaching its health and nutrition goals through the establishment of a comprehensive Technical Support Unit (TSU).

In November 2013, the Foundation supported the University of Manitoba, Canada to establish the TSU, embedded within the GoUP. One of the main functions of the TSU is to create concurrent monitoring systems using surveys, dashboards and feedback loops to impact mid-course corrections.

This data from the last two rounds of Community Behaviour Tracking Survey (CBTS), designed and implemented by the TSU, is timely and useful. In its first round report (published in September 2015), the CBTS put forward the status of women using health care services in the 100 blocks of the 25 High Priority Districts (HPD).

The present report has highlighted a comparative analyses of the information collected from women (who had delivered children in last 2 years) in the 20 lowest performing blocks, surveyed in last two rounds. It indicates the improvements already made and areas need further improvement in terms of public service deliverables.

This report reflects challenges and highlights the scope of moving from a very low baseline to the state goals of achieving better health outcomes. Although the results presented in this report are ascribed to the 20 priority blocks of the 25 High Priority Districts (HPDs), the findings have implications beyond these geographies.

We hope that this data will be used by district and block health officials to implement specific plans for the improvement of health and nutrition in their respective areas.

(Alok Ranjan) Chief Secretary Government of Uttar Pradesh Arvind Kumar I.A.S. Principal Secretary



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MESSAGE

Since its establishment in November 2013, the Uttar Pradesh Technical Support Unit (UP TSU) has been providing an integrated and embedded technomanagerial support to improve the planning, implementation and monitoring of health programmes in the 25 High Priority Districts (HPDs) of the state.

The TSU is providing implementation support at community and facility levels through its Community Resource Persons (CRPs)/ Block Community Supervisors (BCS) and Nurse Mentors (NM), respectively. The state monitoring systems are being strengthened with the TSU's support for improving the quality and use of HMIS/MCTS data. The TSU's Community Behaviour Tracking Survey (CBTS) will further help in validating the service coverage data from the HMIS and making mid-course corrections in the programme implementation at district and block levels.

The first round of the CBTS collected and presented information from 100 of the 294 blocks in the 25 HPDs. The present report brings forth a comparative status of the 20 lowest performing blocks. The survey covers a wide range of indicators across the Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) spectrum, covering a large proportion of ASHA-areas and beneficiaries. Adequate sample sizes have made it possible to understand the inequities across smaller geographies and population sub-groups.

The data highlights some of the challenges of creating adequate demand and behaviour change in communities. It stresses on the need to respond to gaps in the supply, particularly in terms of delivery points, First Referral Units (FRUs), as well as in the skills and practices of health care providers. We hope that the district and block health officials in the 25 HPDs will be able to move the indicators towards better health outcomes, with the support of the TSU.

(Arvind Kumar) Principal Secretary Medical, Health and Family Welfare Government of Uttar Pradesh Alok Kumar I.A.S Mission Director



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MESSAGE

The Uttar Pradesh Technical Support Unit (UP TSU) has established concurrent monitoring systems in 100 Blocks of the 25 High Priority Districts (HPDs) of the state, in the form of Community Behaviour Tracking Surveys (CBTS). The second round of the CBTS, which is conducted in the 20 lowest performing blocks, has been successfully completed and the key findings are summarised in this brief report. This reflects a comparison of the last two rounds of data for the same 20 blocks.

The CBTS affirms the importance of strengthening the quality and quantity of Front Line Workers' interactions (ASHAs, AWWs, ANMs) related to RMNCH+A in both antenatal and postnatal periods. The integration of essential ANC services, such as Blood Pressure (BP) and Haemoglobin (Hb) measurement, with the routine immunisation programme in the state, could provide an opportunity to achieve the targets for full ANC care, and identify and track women with high-risk pregnancies.

Increasing institutional deliveries continues to be a priority in the state and it is evident that concerted efforts are required to diagnose and address the supply and demand gaps in the 20 blocks where deliveries at home are more than 40%. However, institutional deliveries have increased from 45% to 53% in these 20 blocks during the one-year period. Besides, other RMNCH+A indicators have increased, which is a good sign for the programme.

However, there is always scope for improvement. Overall, from an equity perspective, it is good to target specific population sub-groups and blocks that may be experiencing the greatest need and may be the most vulnerable to poor outcomes due to social factors. This will lead to an overall impact on the programme.

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(Alok Kumar) Mission Director National Health Mission Government of Uttar Pradesh Dr. M.R. Malik Director General DIRECTORATE OF MEDICAL & HEALTH LUCKNOW



MESSAGE

The second round of the Community Behaviour Tracking Survey (CBTS), designed and implemented by the Uttar Pradesh Technical Support Unit (UP TSU), provides important information on the status of the RMNCH+A indicators for the 20 lowest performing TSU blocks in the 12 High Priority Districts (HPDs) of the state.

During the last one year, these 20 lowest performing blocks made improvements in many of the deliverables of the RMNCH+A services. However, concerted efforts are needed to improve the skills and capabilities of our Front Line Workers (FLWs) and care providers, as well as to improve the availability of essential drugs, equipment, and supplies in public health facilities.

I urge the district and block health officials of these 20 TSU blocks to use this data for improving health outcomes by focusing equally on community health workers, facility improvements, and data supply systems.

My sincere thanks to the UP TSU for making this data available for further planning and implementation of key RMNCH+A strategies.

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MESSAGE

The Uttar Pradesh Technical Support Unit (UP TSU) has setup a concurrent monitoring system in the 25 High Priority Districts (HPDs) of the state. The objective is to provide a critical RMNCH+A outcome and output level indictors for community and facility level interventions.

The purpose of having a concurrent monitoring system is to fill the gap in the existing data systems (HMIS & MCTS) of the government. The TSU data provides indicators relating to practices and behaviours of providers and beneficiaries; and helps in reviewing and planning to become more result-oriented rather than process-driven. This system also provides an opportunity to validate the data generated by the government data system and make the latter more accountable.

We are conducting the Community Behaviour Tracking Survey (CBTS) at community level and the Rolling Facility Survey (RFS) at facility level. The CBTS is designed to track critical RMNCH+A behaviours and coverage of health programs at the community level. The RFS help in tracking the knowledge, skill, and the practices of healthcare providers and enable them to deliver critical RMNCH+A services at Community Health Centres (CHCs), Primary Health Centres PHCs), and Sub Centres (SCs).

This report of the Community Behaviour Tracking Survey, Round 2 (CBTS-2), summarises findings from the intervention areas, which need increased focus to address the high level of inequity. In this round of the survey, we are providing comparative results of the critical RMNCH+A indicators from the 20 lowest performing blocks. The selection was based on the performance from the first round of the CBTS results conducted in 100 blocks during 2014-15.

The report highlights the changes made in the most vulnerable geographical areas with the help of the RMNCH+A programme; as well as behaviour change among the population, where services are inadequate.

We expect this report to bring attention to the need for much focused intervention strategies for the lowest performing areas to improve the state level performance in a short time.

(Vikas Gothalwal) Executive Director Technical Support Unit Uttar Pradesh

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Executive Summary

The Uttar Pradesh Technical Support Unit (UP TSU) designed a periodic rolling sample survey - the Community Behaviour Tracking Survey (CBTS), to meet the data requirements for evidence-based programme planning. The survey included a review at the sub-district levels, which is currently not being provided by other household surveys. The first round of the CBTS (CBTS-1) was implemented in the 100 blocks of 25 High Priority Districts (HPDs) during May 2014 to February 2015. The follow-up survey (CBTS-2) was implemented in the 20 lowest performing blocks during February-March 2016. The aim was to prioritise, achieve a larger impact, and monitor the changes in key RMNCH+A (Reproductive, Maternal, Newborn, Child, and Adolescent Health) indicators. These 20 lowest-performing blocks were identified by taking into account the relative performance of a set of 10 RMNCH+A indicators from round 1 of the CBTS survey.

The executive summary provides an overview of the key indicators from repeat surveys conducted during 2014-16, which are relevant for RMNCH+A programming for the 20 lowest performing blocks in UP. The surveys covered four demographic groups: (1) women who delivered in the past 2 months (0-60 days); (2) mothers with children aged 3-5 months (61-180 days); (3) mothers with children aged 6-11 months (181-364 days); and (4) mothers with children aged 12-23 months (365-729 days).

Maternal and Newborn Health: A significant improvement has been made in ANC (Antenatal Care) check-ups over a period of one year, during 2015-16. There has also been an improvement in full ANC (3 or more ANC check-ups, 2 TT injections, and 100 IFA tablets) from 2% in the CBTS-1 to 5% in the CBTS-2. However, the data remained low in the lowest performing blocks and needs further focus. While 57% of pregnant women received 2 Tetanus Toxoid (TT) injections, only 15% received 3 or more ANC check-ups. The critical elements of ANC check-ups for detecting high-risk pregnancies have shown improvement, though they need further focus. For instance, Hb (Haemoglobin) testing and BP (Blood Pressure) measurement during pregnancy has increased from 18% to 35% each from CBTS-1 to CBTS-2. The statistics indicate that a tremendous improvement was made in one year, though it needs further focus. It needs to be integrated in the critical ANC services at the VHND (Village Health & Nutrition Day) platform.

Increasing institutional deliveries is a priority for the state and birth planning is a key aspect to achieve it. Overall, the proportion of women, who planned to deliver in a health facility, increased from 41% to 49% in the 20 lowest performing blocks. Women contacted by an ASHA (Accredited Social Health Activist) were found to be more likely to plan institutional deliveries as compared to their counterparts (59% versus 43%) in round 2. Further, in CBTS-2, about 53% of deliveries took place at institutions, with 38% in Community Health Centres (CHCs), followed by 19% in District Hospitals (DHs) or private facilities, 15% in Primary Health Centres (PHCs), and 9% deliveries took place in Sub Centres (SCs). During a period of one year, institutional deliveries have increased from 47% to 53% in the lowest performing blocks. An increased focus of the Community Resource Persons (CRPs) on strengthening the quantity and quality of ASHA visits is essential for increasing institutional deliveries.

A majority of women, who had delivered babies recently, reported complications. About, 58% of women those delivered in public health facilities, 69% in private health facilities, and 53% in homes have reported complications. The most commonly reported problems were obstructed labour, followed by

Community Behaviour Tracking Survey-2016: Key Findings

prolonged labour lasting over 12 hours, sepsis, fever, and excessive bleeding. A substantial increase in the treatment of any kind of obstetric complications at the Comprehensive Emergency Obstetric Care (CEmOC) facility was noticed between CBTS-1 and CBTS-2 (20% to 32%), which is one of the critical interventions for reducing maternal mortality.

Postnatal and newborn care have also improved though the level has remained low. Findings from the CBTS-2 indicate that the percentage of women, who had delivered recently at a facility and stayed back for at least 48 hours after the delivery, has almost doubled (10% to 18%), during the one-year period, with a higher increase in government facilities (9% to 18%). The national programme also recommends the strengthening of essential newborn care for reducing neonatal mortality, which includes immediate breastfeeding, clean cord care practice, skin-to-skin contact, and delayed bathing. The survey shows that 30% of mothers, who had delivered recently, breastfed their child within an hour, which is an increase from 20% the year before.

The extent of increase in breastfeeding within an hour of birth is much higher among deliveries that have occurred in public facilities as compared to other places. This indicates increased skills among staff nurses would have contributed to the rise in early breastfeeding. It also depicts that there has been an increase in skin-to-skin contact after the birth of a child. This increase is faster in government facilities as compared to other practices remained the same between the survey rounds, which suggests that a focused approach on clean cord care is needed during both community and facility interactions. Women have also delayed giving a bath to their newly born child. The percentage of mothers, who delivered recently and did not give a bath to their newborns within the first 3 days of birth, increased from 54% to 64%, between the two rounds of surveys.

The current level of the Neonatal Mortality Rate (NMR) in the 20 focus blocks is estimated to be 33.6 per 1,000 live births (95% CI: 29.9 - 37.7). The overall NMR remained the same during the study period. A decline in the NMR among the live births at public health facilities suggests an improved management of delivery complications at the facilities. A substantial increase in abortions (7% to 20%) was noticed among the recent pregnancies. It was largely among women who do not want any more children. This unusual increase in abortions needs further investigations to understand their causes and consequences.

Infant and Young Child Feeding Practices: The recommended Infant and Young Child Feeding (IYCF) practices in the first 2 years of life reduce the levels of under-nutrition among children. Preceding the survey, 89% of the children, aged 6-11 months, had been breastfed in the last 24 hours; however, not all of them were exclusively breastfed. Only about two-thirds women, with children aged 3-5 months, reported that their children were exclusively breastfed, in the past 24 hours before the survey. Complementary feeding (in a separate bowl) is advocated; however, only 9% of the children aged 6-11 months were both breastfed and given complementary feeding (in a separate bowl/plate). There has been an increase in complementary feeding during the past 1 year. Focus is needed for continued promotion of exclusive breastfeeding and the timely introduction of complementary feeding to prevent acute and chronic malnutrition in children.

The national programme envisages a high coverage of 9 doses of Vitamin A, given to children aged 9 months to 5 years. The first dose is given along with the Measles vaccine whereas the subsequent doses are given twice a year during *Bal Swasthya Poshan Mah*, observed in June and December. The Vitamin A coverage among children of all ages, up to 23 months, has increased significantly between the two

rounds of CBTS. Nonetheless, this needs further strengthening as only about 50% of children received Vitamin A supplements.

Childhood Immunisation: The coverage of full immunisation (BCG, 3 doses of DPT and Measles vaccine) has improved considerably from 41% in CBTS-1 to 48% in CBTS-2. The data, showing 79% of children receiving any immunisation in round 1, increased to 86% in round 2. However, the level of full immunisation was low due to the low coverage of DPT 3 and the Measles vaccine. It is also evident that of the 20 focus blocks, only 2 blocks have achieved a full immunisation rate of ≥70% among children, aged 12-23 months. The coverage remained below 50% in 14 blocks.

Childhood Pneumonia and Diarrhoea Treatment: Newly born children, less than 23 months of age, reported episodes of pneumonia and diarrhoea in the past 2-week period; i.e. 12% and 26%, respectively. The treatment of diarrhoea remained low among children aged 0-23 months old. During the last episode of diarrhoea among children, aged 0 to 23 months, only 14% received Oral Rehydration Solution (ORS), 16% received zinc, and only 5% received both zinc and ORS. About two-thirds of the children, below 23 months, were treated with antibiotics when they had pneumonia with symptoms, such as difficulty in breathing, wheezing or chest in-drawing, coughing and having a fever.

Family Planning: A year before, the prevalence of modern contraceptive use among women, who had delivered during the past 2 years, was 12%, which has marginally increased to 15%. The most common modern methods in use were condoms, followed by contraceptive pills and sterilisation. The use of postpartum family planning method is low at 2%, which is an increase from less than 1% a year ago. The unmet need for spacing (wanting another child after 3 years) and limiting was 26% and 39%, respectively, in the 20 focus blocks. While there is a decrease (37% to 26%) in the unmet need for spacing, the need for limiting has increased (31% to 39%). This has resulted in an overall decline in the unmet need for family planning methods from 68% to 64% among mothers who had delivered recently, from CBTS-1 to CBTS-2.

The increased unmet need for limiting would have resulted in increased unwanted pregnancies leading to increased abortions in the 20 focus blocks. This suggests the need for particular attention not only to limit the family size but also to address the reproductive health issues due to abortions.

Implications and Recommendations: The Community Behaviour Tracking Survey (CBTS), being implemented in Uttar Pradesh, provides useful data to monitor and strengthen the programme in the state. Two rounds of surveys have helped in understanding the direction of the programme as well identifying areas that need specific attention. Although the most critical indicators of RMNCH+A have shown improvements in the one year period, continued focus is suggested on key areas including early ANC check-ups, institutional deliveries, delivery and postnatal care and family planning services. The programme also needs differential prioritisation across blocks within the 20 focus blocks.

Public health facilities are delivering improved services to manage delivery complications as well as counselling women on postnatal and child care. Substantial improvement in managing complications at the Comprehensive Emergency Obstetric Care (CEmOC) facility and reduction in NMR at public health facilities suggests that skill building of staff nurses is the key to reduce NMR.

One important finding from the round 2 survey is the increased abortion rates in the focus blocks. The

increased unmet need for limiting would have resulted in unwanted pregnancies. It was more than likely that those unwanted pregnancies were terminated. Though a large proportion of abortions were reported as spontaneous, it needs further investigation to understand the increased abortion rate and the associated factors.

From an equity perspective, it may be important to target specific population groups and blocks that have the greatest need and that may be the most vulnerable to poor outcomes due to social and supply factors.



The Uttar Pradesh Technical Support Unit Community Behaviour Tracking Survey: Results from the Priority Blocks

INTRODUCTION

Background

Concurrent and independent monitoring systems are required to validate the routine data collected by service providers. It provides population-based coverage and practice indicators for reviewing the programme gaps and helps in taking corrective actions.

The Uttar Pradesh Technical Support Unit (UP TSU) (Annexure A) has established periodic rolling short sample surveys, called the Community Behaviour Tracking Survey (CBTS). The objective of these surveys is to support the Government of Uttar Pradesh (GoUP) and to provide concurrent monitoring data. The CBTS is designed to meet the data requirements for an evidence-based programme planning and review at sub-district levels, which is not being provided by national surveys. These surveys are meant to be short, focused, and semi-annual.

The UP TSU is carrying out these surveys in the 100 Blocks of 25 high priority districts (HPDs) in the state, as a three-year programme. It will facilitate the use of data in programme management, tracking outcomes, validating Health Management Information System (HMIS)/Mother & Child Tracking System (MCTS) and affecting the mid-course corrections in strategies or service delivery mechanisms. The first round of the CBTS was conducted in the 100 blocks of 25 HPDs and the findings were published (Community Behaviour Tracking Survey: Results of the first round - September 2015). The second round of the survey was implemented after a year in 20 poorly performing blocks to monitor the changes in the key RMNCH+A indicators. The poorly performing blocks were identified with the help of 10 critical indicators. (Table-1)

The principal component analysis was used to generate block level scores and the lowest 20 blocks were selected for conducting the second round of CBTS.

Table 1: Critical indicators for the selection of 20 blocks

Problem	Lowest	Highest
% of mothers delivered recently and	Quintile	Quintile
accepted IUD or TL after delivery	0.0	2.0
% of women with unmet need for family	13.7	21.5
% of mothers delivered recently at a	46.9	76.9
health facility	40.5	70.5
% of mothers with major direct obstetric	22.3	35.4
complications treated at CEmOC facility		
% of newborns received initiation of	34.8	54.3
breastfeeding within one hour of delivery		
% of newborns who received any	37.2	50.5
application at the stump of their cord		
% of children 0-5 months, who are	68.0	64.6
currently exclusively breastfed		
% of infants 6-11 months who received	35.1	59.0
DPT3 vaccine		
% of children 0-24 months ever suffered	7.7	11.1
from diarrhoea and treated with zinc and		
ORT for the last episode		
% of children 0-24 months ever suffered	63.3	75.5
from pneumonia and treated with		
appropriate antibiotic for the last episode		

Survey Groups

In order to obtain more recent information as well as to avoid recall bias, the CBTS included four demographic groups, relevant for the measurement of RMNCH+A indicators:

<u>Group 1</u>: Women delivered in the past 60 days <u>Group 2</u>: Mothers with children (61-180 days) <u>Group 3</u>: Mothers with children (181-364 days) <u>Group 4</u>: Mothers with children (365-729 days)

The sample sizes and survey questionnaires varied across groups so to ensure the precise measurement of indicators relevant for each group. In order to facilitate the availability of data in real-time, smart mobile phones were used for asking questions and recording the responses instead of paper-based questionnaires. The field data collection was carried out by 50 teams placed in 20 blocks. Each team consisted of 6 field researchers supported by 1 field supervisor. The data collection teams were trained for 12 days, including 3 days of field practice.

The fieldwork for the first round of CBTS was conducted during May 2014 to February 2015 and the CBTS-2 was carried out for one month Table 2: Sample coverage, CBTS-1 & CBTS-2 from 16 February to 19 March 2016. The CBTS design is detailed out in Annexure B and the survey questionnaires will be available on request to IHAT.

Sample coverage

The present report shows a comparison of the sample coverage in 20 lowest performing blocks in CBTS-1 and CBTS-2. (Table 2)

In both rounds of the CBTS, more than 50% of the total listed ASHA areas were sampled for the survey (Group 1) i.e. 52% for round 1 and 56% for round 2, respectively. More than 94% of the desired sample size in all the groups was achieved during both rounds of the survey.

In both rounds of the CBTS, the response rates ranged 80-87% for all groups of respondents. Most of the non-response in all groups was because of the unavailability of women identified for interviews. Another reason for non-responses in Group 1 was the death of mothers after the delivery. A total of 25 women in CBTS-1 and 15 women in CBTS-2, who had delivered in the past two months, reported having died after the delivery.

CBTS-1				CBTS-2				
Results	Women who delivered in the past 2 months	Women who delivered in the past 3-5 months	Mother with children aged 6-11 months	Mother with children aged 12- 23 months	Women who delivered in the past 2 months	Women who delivered in the past 3-5 months	Mother with children aged 6-11 months	Mother with children aged 12-23 months
Total no of ASHA area in the block	3866	-	-		4012			
# of ASHA areas selected	2106	1342	1001	534	2260	1859	1225	625
Sample size required	10170	7373	10607	10164	12355	12407	12243	11035
# of eligible women identified	13,386	11,560	13,141	13,519	13,412	15,469	14,154	12,691
# of eligible women interviewed (sample size achieved)	11526 (110%)	9252 (119%)	10505 (94%)	10758 (103%)	11704 (95%)	13129 (106%)	11665 (95%)	10637 (96%)
Response rate (%)	86	80	80	80	87	85	82	84

Respondents Profile

Table 3 provides the percentage distribution of respondents in different survey groups, according to the selected background characteristics for CBTS-2. There is not much variation in characteristics of respondents across different groups between both rounds of the CBTS.

Table 3. % distribution of respondents by selected background characteristics, CBTS-2, 2016

Characteristic s	Mothers delivere d in the past 2 months	Mother s with children 3-5 months	Mother s with children 6-11 months	Mother s with children 12-23 months
Age (years)				
<20	5.3	3.5	3.3	1.7
20-24	36.2	37.1	34.9	31.2
25-29	33.9	36.2	37.2	37.5
30-34	15.8	15.0	16.0	17.9
35+	8.9	8.3	8.5	11.6
Mean	26.0	26.0	26.2	27.0
Median	25.0	25.0	25.0	26.0
Residence				
Usual resident	93.6	91.6	93.3	94.8
Visitor	6.4	8.4	6.7	5.2
Religion				
Hindu	79.0	78.7	80.1	79.3
Non-Hindu	21.0	21.3	19.9	20.7
Caste/Tribe				
SC/ST	28.0	27.16	28.0	27.3
OBC	52.6	53.65	53.5	54.9
Other	19.5	19.18	18.5	17.8
Literacy				
Literate	36.2	34.59	35.9	31.9
Illiterate	63.8	65.4	64.1	68.1
SHG member				
Yes	2.4	1.96	1.9	2.0
No	97.6	98.0	98.1	98.0
Number	11704	13,129	11,665	10,637

In CBTS-2, 42% of women who had delivered in the past 2 months were under the age of 25, and it was much lower (33%) for women with children aged 12-23 months. Only 5% of women who had delivered in the past 2 months were under the age of 20 years. The average age of the respondents was almost the same (26 years) in all the four survey groups. A large majority (around 80%) of the respondents were Hindu whereas 27% belonged to Scheduled Castes (SC) and Scheduled Tribes (ST). A large proportion (50%) was from Other Backward Castes (OBCs). The religious and caste composition of the samples do not vary much across the survey groups in CBTS-2.

Overall, 63.8%-68.1% of the respondents were illiterate. Only 2% of the respondents across the survey groups reported membership in any Self Help Group (SHG).

MATERNAL AND NEWBORN HEALTH

This section presents the CBTS results on the coverage and utilisation of critical maternal and newborn health services for women who had delivered in the past 2 months prior to the survey.

Ante Natal Care

The proportion of women who received any ANC check-up increased from 38% to 51% between two rounds of the CBTS, conducted in a span of one year in the 20 lowest performing blocks. The women who had delivered recently were asked whether they had visited any health facility/doctor/VHND for an antenatal check-up during pregnancy for the measurement of weight, blood pressure, urine test, abdominal check-up and haemoglobin level check-up.

The proportion of women, who had received 3 ANC check-ups and IFA tablets, increased during the same period. One of the most critical indicators for the Government of India (GoI) is to measure the improvement in the quality of ANC services in proportion to women who received full ANC during their pregnancy. Full ANC is defined when a pregnant woman receives at least 3 antenatal check-ups, 2 Tetanus Toxoid (TT) injections and 100 Iron and Folic Acid (IFA) tablets. In the CBTS-2, the full ANC rate has increased from 2% to 5%, which is statistically significant (p< 0.001). (Figure 1)





While a large proportion of women received 2 TT injections in both the rounds, the coverage for the other two components of full ANC was very poor, suggesting a missed opportunity.

The distribution of IFA tablets to pregnant women has increased between the two CBTS rounds. The proportion of women who had delivered recently and received any IFA tablets has increased from 45% to 58% in the 20 poorest performing blocks. However, the proportion of women who consumed any IFA tablet has declined from 33% to 5% (not shown in table and figure).

The consumption of 100+ IFA tablets, as recommended by the Gol guideline, has declined substantially. Only 1% of mothers who had delivered recently reported having consumed 100+ IFA tablets, although 18% received 100+ IFA tablets in CBTS-2 (not shown in the table and figure).

The ANC check-ups are critical for screening women for high-risk pregnancies.

It is recommended that each ANC check-up, at a minimum, should include blood pressure and haemoglobin measurement.

There is a substantial increase in the proportion of women who had BP measured and

haemoglobin tested in the CBTS-2. This indicates an improvement in the quality of ANC check-up services. (Figure 2)

This can be attributed to the GoUP's drive to strengthen VHNDs as a platform for delivering quality ANC services and tracking high-risk pregnancies.

It was found that the VHND is a major platform for ANC related service delivery, with 38% of women receiving ANC services at VHNDs. This was followed by 24% women receiving these services from private facilities (not shown in table and figure).

Figure 2: % of women who had BP measured and Hb tested during the last trimester of pregnancy, CBTS-1 & CBTS-2



While half of the women who had delivered recently did not receive any ANC check-up, the proportion of women who had 3+ ANC increased from 9% to 15% between the two rounds of the CBTS (Figure 3).

Figure 3: % distribution of women who delivered in the past 2 months, according to the number of ANC check-ups, CBTS-1 & CBTS-2



Pregnancy registrations within the first trimester remain very low in both rounds of the CBTS with 20% in CBTS-1 and 25% in CBTS-2. Even the overall registration of pregnancies has declined from 73% to 60%. (Figure 4)

One of the reasons for poor registration is increased abortion cases (7% to 20% in CBTS-2), of which a substantial proportion (88%) was also not registered with an ASHA or ANM (Auxiliary Nurse Midwife).

Figure 4: % distribution of women who delivered in the past 2 months according to the trimester in which their pregnancy was registered, CBTS-1 & CBTS-2



In CBTS-2, some additional questions were asked to know whether the women who had delivered recently received and consumed calcium tablets during their pregnancies. It was found that only 12% of women had received, on an average, 40 calcium tablets.

The consumption of calcium is high among those who received calcium tablets. It was found that 83% of those women who received calcium during pregnancy consumed 33 calcium tablets, on an average, during their pregnancy (not shown in table and figure).

There is a need to focus on distribution of calcium tablets in accordance with the GoI guideline that suggests that a woman should consume 180 tablets during the last trimester of her pregnancy.

The women who had delivered recently were asked is they had received take home ration

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(THR) from Anganwadi or ICDS (Integrated Child Development Services) centres during their pregnancy. It was found that 41% of women had received THR during their pregnancy.

There are substantial variations in the proportion of women who received THR during their pregnancy (ranging from 29% in Domariyaganj of Siddharthnagar district to 53% in Dadrol block of Shahjahanpur district).

ASHA interactions during pregnancy One of the most important community-processlevel-interventions of the GoUP is to improve the frequency and quality of interactions between the government front line workers (FLWs) and beneficiaries through increased home visits. A job aid, Village Health Index Register (VHIR), has been implemented so that ASHAs can track individual beneficiaries through home visits. During the last two rounds of the CBTS, it was found that the proportion of women contacted by ASHAs has declined from 48% to 35%. The proportion of women contacted during their last trimester of pregnancy has also declined from 41% to 29%. However, the components of antenatal checkup (BP measurement, HB test, and at least 3 antenatal check-ups) are found substantially higher among those women who were contacted by ASHAs during their pregnancy. (Figure 5)

2016 51 52 26 26 23 11 BP test Hb test 3+ANC Not contacted by ASHA Contacted by ASHA

Figure 5: % of women who were contacted by ASHAs and had BP test, HB test and received 3+ANCs during their pregnancy, CBTS-2, 2016

Only 9% of women who had delivered recently were contacted by the Anganwadi Worker (AWW). This indicates that there is a need for strengthening the home visit component of the ICDS programme (not shown in table and figure).

Home visits during pregnancy are made to provide different behaviour-change-counselling on maternal nutrition, birth planning, essential newborn care, and family planning. In the CBTS-2, it was found that only 20% of women who had delivered recently received counselling on maternal nutrition, 17% received counselling on immediate breastfeeding and 10% on family planning. (Figure 6)

Figure 6: % of women received counselling during pregnancy on maternal nutrition, immediate breastfeeding and family planning, from ASHA during home visits, CBTS-2, 2016



Birth Planning

The birth planning is one of the key determinants of institutional delivery. The CBTS-1 data from 100 blocks suggest that women who have a birth plan are more likely to deliver in a health facility. Overall, in these 100 blocks, 87% of the women who planned to deliver in a facility actually delivered in a health facility.

There is an overall increase in the proportion of women, who had plans to deliver in a health facility, from 41% to 49% in the 20 low performing blocks. The proportion of women who had plans to deliver in a facility is high (59%) among those who were contacted by an

ASHA during their pregnancy as compared to those who were not contacted (43%). (Figure 7)

Figure 7: % of women who had planned to deliver in a facility - a comparison between those who were contacted and not contacted by ASHAs during their pregnancy, CBTS-1 & CBTS-2



Delivery Care

The CBTS-2 data of the 20 blocks shows a significant increase of 8% in institutional deliveries, i.e. 45% institutional deliveries in CBTS-1 and 53% in CBTS-2.

In CBTS-2, of the 9,305 women, whose pregnancy resulted in a delivery, 53% had institutional deliveries (43% in government facilities and 10% in private) whereas the remaining 47% had home deliveries.

It is encouraging to note that the proportion of deliveries conducted at CHCs and DHs have increased from 21% in CBTS-1 to 30% in CBTS-2. The CBTS-2 data shows that 20% of the deliveries occurred in the CHCs, 10% in DHs, 8% in PHCs, and almost 50% of the deliveries occurred at home. Sub Centre (SC) seems to be the least preferred place as only 5% deliveries were reported at the SCs by mothers who had delivered two months prior to the survey. (Figure 8.1 & Figure 8.2).

Figure 8.1: % distribution of women who delivered in the past 2 months according to place of delivery, CBTS-1, 2014



Figure 8.2: % distribution of women who delivered in the past 2 months according to place of delivery, CBTS-2, 2016



The women who had 3 or more ANC check-ups, in either a facility or VHND, were more likely to deliver in a health facility. (Figure 9) However, the CBTS-1 and CBTS-2 data did not vary much regarding the place of delivery by women who had less than 3 or 3+ ANC checkups.

Figure 9: % distribution of women who delivered in the past 2 months according to place of delivery and whether they had 3+ ANC check-ups, CBTS-2, 2016



A comparison of CBTS-1 and CBTS-2 data shows

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an increasing pattern in the percentage of institutional deliveries among women who had plans to deliver at a facility (78% in CBTS-1 and 83% in CBTS-2). This difference is statistically significant. In addition, similar increasing patterns were also observed among those who had planned to deliver at home or who had no plans at all.

Figure 10: % distribution of women who delivered in the past 2 months who delivered at the facility and where they had planned to deliver, CBTS-1 & CBTS-2



Figure 11 shows a significant relationship between the institutional delivery and birth order in CBTS 2. It shows that there is a decrease in the rate of institutional deliveries with an increase in the birth order.



The institutional delivery in terms of selected background characteristics suggests that the literacy and membership in SHGs had the greatest impact on institutional deliveries in

Figure 11: % of institutional delivery by birth order, CBTS-2, 2016

13

CBTS-2 (Table 4).

It is encouraging to note that the gap between literate and illiterate has decreased in CBTS-2. Nearly half (47%) of the literate women had institutional deliveries. Even among illiterate women, the proportion of institutional deliveries at public health facilities increased from 33% in CBTS-1 to 41% in CBTS -2.

The older women were more likely to deliver at home than the younger ones: i.e. 42% for women aged 20-24 as compared to 53%-57% among women aged 30 and above.

Table 4: % distribution of women who delivered in the past 2 months according to place of delivery and selected background characteristics, CBTS-2, 2016

	Public	Deivete		
Characteristics	facility	facility	Home	N
Age (years)				
<20	46.4	12.4	41.2	468
20-24	46.1	12.0	41.9	3,590
25-29	42.2	10.3	47.5	3,195
30-34	39.5	7.2	53.2	1,387
35+	36.6	6.1	57.4	755
Residence				
Usual resident	42.9	9.9	47.2	8,695
Visitor	44.7	14.7	40.6	700
Religion				
Hindu	44.6	9.4	46.0	7,285
Non-Hindu	38.0	13.1	49.0	2,110
Caste/Tribe				
SC/ST	43.2	6.8	50.1	2,608
OBC	42.1	10.1	47.7	4,978
Other	45.5	15.5	38.9	1,809
Literacy				
Literate	46.8	14.5	38.6	3,440
Illiterate	40.9	7.8	51.4	5,955
SHG				
Yes	48.2	7.1	44.7	197
No	42.9	10.3	46.7	9,198
Total	43.1	10.3	46.7	9,395

It is interesting to note that the improvement in the institutional delivery among Hindus improved from 45% in CBTS-1 to 54% in CBTS-2. The proportion that delivered in a private facility was twice as high (15%) among literate women as it was (8%) among illiterate ones.

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Complication and its Management

In both rounds of the CBTS, after describing each delivery related complication, women were also asked if they had experienced any specific complications during the delivery. The data in CBTS-2 shows that overall 57% of mothers, who had delivered recently, had also reported any of the 10 problems described. (Table 5)

This proportion was the highest (69%) among those who delivered in a private facility and the least (52.6%) among those who delivered at home.

However, we do not know if the complication was the reason for delivering in a facility. It may be noted here that these are self-reported problems and are not clinically verified.

Table 5: % of women who delivered in the past 2 months and who had specific problems during the delivery, according to the place of delivery, CBTS-2, 2016

Problem	Public health facility	Private facility	Home	Total
Premature labour	9.8	17.1	9.5	10.4
Preterm/premature rupture of membrane	9.8	14.3	8.1	9.5
Excessive bleeding before delivery	6.7	8.9	4.1	5.8
Prolonged labour (>12 hours)	23.5	29.6	17.8	21.5
Obstructed labour	41.6	43.1	37.2	39.7
Breech/ mal presentation	9.3	16.3	6.0	8.5
Excessive bleeding immediately after delivery	12.8	13.9	11.2	12.2
Convulsions	12.2	13.2	9.5	11.0
High BP	6.2	8.8	4.7	5.8
Sepsis/Fever	16.1	16.0	15.3	15.7
Any	58.1	69.3	52.6	56.7
Number	4046	964	4385	9395

Among those women, who delivered at the public health facility, the most commonly reported problem was obstructed labour (42%), followed by prolonged labour that lasted for more than 12 hours (24%), sepsis, or fever (16%), and premature labour (10%). In addition to obstructed and prolonged labour problem, women who delivered in a private facility reported relatively more frequent problems of preterm/premature rupture of membrane (17%), and breech/malpresentation (16%).

We do not know if these women had experienced these problems before they ended up in a private facility for a delivery, as this data was not collected in the survey.

Comparison of CBTS-1 and CBTS-2 data shows a substantial increase in the treatment of any obstetric complications at the Comprehensive Emergency Obstetric Care (CEmOC) facility across all population sub-groups. The treatment of any obstetric complication at the CEmOC facility has increased from 20% in CBTS-1 to 32% in CBTS-2.

Post Natal and Newborn Care

The data from two rounds of the CBTS depict that there has been a 3% increase (from 17% to 20%) among mothers, who had delivered recently and reported that their child was given skin-to-skin contact Care.

It is interesting to observe that KMC has increased by 8% in a year for those who delivered in community health facilities, followed by 3% for those who delivered in District Hospitals, whereas it has decreased for those, who delivered in Sub Centres. This indicates the impact of nurse mentoring programme on skin to skin contact care. (Figure 12)

Programmatic efforts seem to have contributed to women staying at facilities for a longer duration. However, only 18% of women, who had delivered recently at any facility, reported staying at the facility for at least 48 hours after the delivery. Their percentage was 10, a year before.





The number of mothers, who had delivered recently in public health facilities but have not had C-section, has doubled from 9% to 18% during CBTS-1 to CBTS-2. This is true for all facility types, which is an encouraging sign. However, in CHCs and PHCs, it has increased three times and four times from CBTS-1 to CBTS-2, respectively. (Figure 13)





Post Natal Home Visits by ASHAs

The data from both rounds of the CBTS indicate a decline in almost all the performance indicators of ASHAs, associated with Post Natal Care (PNC). The proportion of women who had delivered recently and were visited by ASHA at home during the first month, after delivery has declined from 45% in CBTS-1 to 29% in CBTS-2 (Figure 14)





Newborn Care at Home

Newborn bathing practices have significantly improved over the period of time. The data shows an overall increment from 54% to 64% for mothers who did not give a bath to their newborn within the first 3 days of birth. This proportion was greater among those who were visited at home by an ASHA, within 24 hours of birth, in comparison to those who were not (73% versus 60%). However, the study did not show any changes in the newborn care as far as applying anything to cord stump is concerned.

Neonatal Mortality

Based on a survival analysis of live births, during two months prior to the survey, the Neonatal Mortality Rate (NMR) (deaths during the first 28 days of life) in the 20 TSU focus blocks was estimated to be 33.6 per 1,000 live births (95% CI: 29.9-37.7). (Figure 15)

These estimates are based on a total of 9,003 live births in the 2 months, preceding the survey, and a total of 297 deaths.

The state level NMR was 49 neonatal deaths per 1,000 live births in the 2012-13 Annual Health Survey (AHS) and 35 neonatal deaths per 1,000 live births in the 2013 Sample Registration Survey (SRS). This shows that the NMR, estimated from the CBTS, is more or less consistent with the 2013 SRS estimates.

Considering that the CBTS estimates NMR from women, who had delivered in the past 2 months prior to the survey, the data reflects more recent trends as compared to either the AHS (three year period preceding the survey) or the SRS (12 month period prior to the survey).

The estimated NMR was higher among those delivered in a health facility (36.8, 95% CI: 31.6-42.8) as compared to those delivered at home (30.0, 95% CI: 25.1-35.9). However, it was significantly lower among the deliveries conducted in government health facilities (31.4, 95% CI: 26.1-37.7) than those conducted in private health facilities (60.2, 95% CI: 46.0-78.6).

Though the overall NMR for the 20 TSU focus blocks has not changed during CBTS-1 and CBTS-2, it has declined among the deliveries conducted at government health facilities, from 35.3 in CBTS-1 to 31.4 per 1,000 live births in CBTS-2.

Figure 15: Estimates of Neonatal Mortality Rate among the live births, during the two months prior to survey, by place of delivery, CBTS-1 & CBTS-2



Here, we have used the Kaplan-Meier failure estimates to measure the proportions of children dying after a certain point of time after birth (Figure 16.1 & Figure 16.2). The data collected separately for each place of delivery, suggests that the chances of death on each day, including the day of the birth, are significantly greater among children delivered in a private facility than those delivered in a government health facility or at home, in both the CBTS-1 and CBTS-2.

The probability of dying on each day among children delivered in a government health facility is lower in CBTS-2 as compared to CBTS-1. However, among those delivered in a private facility, the probability has increased in the CBTS-2. One of the reasons for a high NMR in private facilities is that those delivered in private facilities reported higher complications (69%) as compared to those delivered in government health facilities (58%).

Figure 16.1: Kaplan-Meier failure estimates among live births during the two months prior to survey, by place of delivery, CBTS-1, 2014



Figure 16.2: Kaplan-Meier failure estimates among live births during the two months prior to survey, by place of delivery, CBTS-2, 2016



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The NMR estimate is significantly greater among children whose mothers reported any delivery complication (41.8 per 1000 live births) as compared to those whose mothers did not report any complication during the delivery (23.7 per 1000 live birth). (Figure 17)

The figure shows that the NMR has declined from 47.8 to 41.8 per 1000 live birth among those children born out of delivery complications, from round 1 to round 2. This clearly indicates that it is a result of the management of complications during the delivery.



Figure 17: Estimated neonatal mortality rates among live births in the past 2 months by delivery complications, CBTS-1 & CBTS-2

Non-Hindus and children of literate mothers had lower NMR (28.7 and 30.8, respectively) as compared to their respective counterparts. The mothers in the age group of 20-29 years had significantly lower NMR as compared to mothers below 20-years of age and mothers who were 30 years or above.

However, there were no large differences in neonatal mortality in terms of caste/tribe and status of ANC check-ups during pregnancy. (Table 6)

The largest difference in neonatal mortality was observed by assessing whether the child received skin-to-skin contact soon after the delivery. The estimated NMR is 21.5 and 36.6 per 1000 live births, respectively, among children who received and did not receive skinto-skin contact. Newborn to mothers with complications have trouble in adjusting to extra-uterine life and often require some form of resuscitation (making skin-to-skin not possible).

Table 6: Estimated Neonatal Mortality Rates among live births in the past 2 months, according to selected background characteristics, CBTS-2, 2016

		95% confidence	
	Neonatal	inte	rval
Characteristics	mortality	Low	High
Delivery complications			
Any	41.8	36.3	48.0
None	23.7	19.2	29.1
3 ANC check-ups			
Yes	35.4	27.2	46.0
No	33.2	29.1	37.7
Skin-to-skin contact			
Yes	21.5	15.6	29.8
No	36.6	32.3	41.4
Visited by ASHA <24 hrs			
Yes	35.2	30.8	40.2
No	29.1	22.9	36.9
Age (years)			
<20	43.6	27.5	68.6
20-29	31.0	26.9	35.7
30+	39.6	31.6	49.5
Religion			
Hindu	35.0	30.7	39.8
Non-Hindu	28.7	22.0	37.3
Caste/Tribe			
SC/ST	33.5	26.9	41.7
OBC	32.0	27.1	37.7
Other	38.2	29.8	48.9
Literacy			
Literate	30.8	25.3	37.6
Illiterate	35.2	30.5	40.6
Total	33.6	29.9	37.7

Besides, neonatal mortality is often the highest among the high-risk newborns. Therefore it is difficult to determine the significance of these results. (Figure 18.1 & Figure 18.2) Figure 18.1: Kaplan-Meier failure estimates among live births during the two months prior to survey, by whether the child received skin-to-skin contact, CBTS-1, 2014



Figure 18.2: Kaplan-Meier failure estimates among live births during the two months prior to survey, according to whether the child received skin-to-skin contact, CBTS-2, 2016



INFANT AND YOUNG CHILD FEEDING PRACTICES

Under-nutrition is a contributing factor in 45% of all deaths in children under five years of age, and the effects of under-nutrition are largely irreversible after the age of two years. The adoption of optimal infant and young child feeding (IYCF) practices in the first two years of life, are recommended, failing which the nutritional status becomes non-responsive to further interventions and efforts.

The recommended IYCF practices include immediate initiation of breastfeeding after birth, exclusive breastfeeding for the first 6 months, continued breastfeeding for two years or beyond, and timely and age-appropriate complementary feeding after 6 month.

This section presents the CBTS results regarding IYCF practices prevailing among women with children under the age of 2 months, 3-5 months, 6-11 months, and 12-23 months.

Early Initiation of Breastfeeding

The initiation of breastfeeding within the first hour of birth has significantly increased from 20% to 30% over the two rounds of CBTS, though it is still at the lower side. Significant improvements were also observed in the early initiation of breastfeeding among mothers who delivered at public health facilities (13%), during two rounds of the survey. Among mothers who delivered at home, early initiation of breastfeeding the child has marginally improved. (Figure 19.1)

There was no difference in the proportion of women who breastfed the child within 1 hour of birth, by the sex of the child.

In both rounds of the CBTS, women were asked whether the child was given anything such as honey, water, tea, jaggery, or ghutti by anyone before being breastfed for the first time.

Results show that the proportion of newborns who were not given any prelacteal feed has increased from 51% to 56% during the survey rounds. Also, the proportion of mothers, who delivered at the public facilities and did not give any prelacteal feed to the newborn, has significantly increased (7%). (Figure 19.2)

There was no difference in this proportion by the sex of the child.





Figure 19.2: % of women delivered in the past 2 months, who did not give prelacteal feeds, according to place of delivery, CBTS-1 & CBTS-2



Exclusive Breastfeeding

Mothers who had delivered recently were asked if the child had been given anything other than breast milk (including water) in the past 24 hours. It was found that 70% of women who had delivered in the past 2 months did not give anything other than breast milk, in CBTS-2.

As per CBTS-2, exclusive breastfeeding among the children aged 0-6 months is 63%, which almost remains the same as was in CBTS-1. As the age of the child increases from <30 days to 5-6 months, the exclusive breastfeeding is declined. For instance, 74% of women with children aged less than 30 days breastfed them exclusively. The percentage for exclusive breastfeeding came down as the children grew in age. 61% women exclusively breastfed their children aged 3-4 months and 52% women with children aged 5-6 months. (Figure 20).

The CBTS-2 data shows that 22% of women, who had delivered in the past 2 months, and 20% of women, having children aged 3-5 months, reported that an ASHA or AWW, or an ANM had advised them, at least once in the past 30 days, to not give anything other than breast milk (not even water) to the child for 6 months.

This suggests an increased coverage as far as counselling for breastfeeding is concerned.

Figure 20: % of children under the age of 6 months who are exclusively breastfed during the 24 hours, preceding the survey, by current age of the child, CBTS-2, 2016



However, quality needs to be the further focus of the counselling, as the survey indicates no difference in exclusive breastfeeding between those who counselled and not counselled.

Timely and Age-Appropriate Complementary Feeding

In the CBTS-2, the mothers of children aged 6-23 months were asked if they had breastfed the child in the past 24 hours, during either the day or night, along with the number of times the child was given any semi-solid, solid or soft food in a separate bowl/plate in the last 24 hours. No significant differentials were observed in both

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rounds of the CBTS on this.

Overall, in the CBTS-2, 89% of mothers having children aged 6-11 months reported that the child had been breastfed in the last 24 hours; 10% reported that the child had been given complementary feeding in a separate bowl/plate in the last 24 hours. Thus, only 9% of the children aged 6-11 months were both breastfed as well as given complementary feeding in a separate bowl/plate, as recommended. (Figure 21)

The continued breastfeeding was 83% among children aged 12-23 months; and 35% in this age group received recommended complementary feeding. However, 28% of children aged 12-23 months received both breastfeeding and complementary feeding.

Figure 21: % of children aged 6-11 and 12-23 months who were breastfed and given complementary feeding in the 24 hours prior to survey, CBTS-2, 2016



Feeding practices remain more or less the same for children aged 6-23 months over the past one year period. Feeding by the age of the child in months shows that there is a gradual decline in feeding practices. (Figure 22) There is also a sudden increase in the complementary feeding practices when the child reaches the age of 12 months or more.

Complementary feeding levels were found to be low during the CBTS-2. Only 54% of children aged 23 months were given complementary feeding in a separate bowl/plate.

Despite the programmatic focus on improving the frontline worker (FLW) interactions, the survey shows that the counselling of mothers on age-appropriate complementary feeding, in the months prior to the survey, has reduced from 16% to 11% among those mothers who have children aged 6-11 months. A similar pattern has also been observed for the mothers of children aged 12-23 months (13% to 10%).

Figure 22: % of children aged 6-23 months who are breastfed in the 24 hours preceding the survey and were given any semi-solid, solid, or soft food in a separate bowl during the 24 hours preceding to the survey, by current age of the child, CBTS-2, 2016



In both rounds of the CBTS, mothers who received counselling/advice on age-appropriate complementary feeding were more likely than the rest to continue breastfeeding their children along with complementary feeding. However, among those who received counselling on ageappropriate complementary feeding, the level of continued breastfeeding along with complementary feeding decreased significantly (from 24% to 11% in the mothers of children aged 6-11 months). A similar trend (46% to 31%) was also observed in mothers with children aged 12-23 months.

During both CBTS-1 and CBTS-2, information on the food type and quantity of each soft/ mashed/ semi-solid meal, to be given to the child, was sought from mothers. The quantity of that food was shown to the mothers during the interview in terms of full, half or less than half of a 250 ml bowl. Three or more meals of the half or full bowl of 250 ml bowl each, was considered as the adequate frequency and quantity for children aged 6-23 months.

Children who received at least 4 of the 7 food items (fats and oils, pulses and legumes, green leafy/other vegetables, fruits, cereals and millets, milk and milk products, egg and animal products) were considered as receiving adequate variety.

The data shows that complementary feeding for children aged 6-23 months with adequate frequency and quantity has marginally improved during the survey rounds. The CBTS-2 data indicates that despite the low level of adequate frequency and quantity of complementary feeding, it has been improving with the increase in the child's age. (Figure 23)

The proportion of children who received adequate variety of food has also increased from CBTS-1 to CBTS-2. During CBTS-2, the proportion of children who received adequate variety of food increased steeply from 3% among children aged 6 months to 40% among children aged 23 months. However, the same figure was at the lower side in CBTS-1 ranging from 2% to 20% (Figure 24). Figure 23: % of children aged 6-23 months who were fed soft/mashed/semi-solid food in an adequate frequency and quantity in the 24 hours preceding the survey, by current age of the child, CBTS-1 & CBTS-2



Figure 24: % of children aged 6-23 months who were fed adequate variety in the 24 hours preceding the survey, by current age of the child, CBTS-1 & CBTS-2



Vitamin A and Iron Folic Acid Supplementation

The national programme envisages high coverage of 9 doses of Vitamin A among children aged 9 months to 5 years. While the first dose is given along with the Measles vaccine, the subsequent doses are given twice a year, during the *Bal Swasthya Poshan Mah*, observed in June and December, every year.

The national guidelines for the control of iron deficiency and anaemia among children aged 6

months to 5 years set a goal for providing IFA syrup to children aged 6-60 months, bi-weekly. The first dose is to be administered by the ANM during the VHND and the subsequent doses by the parents under the supervision of the local ASHA. In both rounds of the CBTS, mothers of children aged 6-23 months were asked if the child had received Vitamin A dose and IFA syrup in the past 6 months.

The data from two rounds of the CBTS indicates that there has been a significant change in the proportion of children of all age groups receiving Vitamin A. It has increased from 20% to 31% among children aged 9-11 months and 33% to 46% among children aged 12-23 months. (Figure 25.1)

However, the proportion of children aged 6-23 months who received IFA has not improved much (6% to 7%) between both rounds of the CBTS. (Figure 25.2)





Figure 25.2: % of children age 6-23 months who received IFA syrup during the 6 months prior to the survey, CBTS-1 & CBTS-2



The level of coverage of Vitamin A in the past six months by the age of the child has increased from CBTS-1 to CBTS-2. In CBTS-2, Vitamin A coverage increased steeply from 20% for children aged 9 months to 45% for children aged 14 months, and stabilised thereafter. Almost a similar trend was also observed in CBTS-1, i.e. 15% for children aged 9 months to 35% for children aged 14 months. (Figure 26)



Figure 26: % of children aged 9-23 months who received Vitamin A in the past 6 months, CBTS-1 & CBTS-2

CHILDHOOD IMMUNISATION

In both rounds of the CBTS, mothers of children aged 12-23 months were asked if the child had received specific vaccinations (BCG, DPT, and Measles). Wherever possible, their responses

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were verified, from the immunisation cards. If the card was not available, the mother's response was recorded. In the case of BCG, the mother's response was verified by checking the scar. The children who received BCG, 3 doses of DPT and the Measles vaccine were considered as fully immunised.

There was a considerable improvement in the availability of cards for the verification of immunisation details, for the period between two rounds of the CBTS. The immunisation details were recorded in the cards in only 27% of the cases in the CBTS-1. This percentage was 42% in the CBTS-2. (Figure 27)

The difference further indicates that there is either a lack of availability of cards or poor recording of information in the cards.



There has been a 7% increase in full immunisation between two rounds of the CBTS. While 41% of children aged 12-23 months were fully immunised (received BCG, 3 doses of DPT and Measles vaccine) in round 1, it has increased to 48% during CBTS-2. One fifths of children in the CBTS-1 had not received any of the BCG, DPT, or Measles vaccine, which has decreased to 14% in the CBTS-2. (Figure 28)

Figure 27: % of children aged 12-23 months whose immunisation details were available in cards during CBTS-1 & CBTS-2





The coverage of BCG, 3 doses of DPT and the Measles vaccine has also improved considerably during two rounds of the survey. The gap in the coverage of BCG and Measles immunisation has narrowed down from CBTS-1 to CBTS-2. The dropout rate from the first to third dose of DPT remained almost same over the two rounds of CBTS. In the CBTS-1, 70% of children had received the first dose of DPT, but only 48% received the third dose. Considerable improvement was noticed in the round 2 with 79% of children receiving the first dose of DPT and 56% receiving the third dose. While there is an increase in DPT, there is about 22-23% drop out from the first to the third dose of DPT.

The proportion of fully immunised children is relatively lower among children whose mothers are underage (20 years or below) as compared to children whose mothers are 35 years or above (40%), non-Hindus (40%), and illiterate (44%). Similarly, the proportion of not immunised children is found to be higher among children whose mothers are from the age group of 30 or above, non-Hindus, illiterate, and non-SHG members. (Table 8) Table 8: % of children aged 12-23 months not immunised and fully immunised, according to selected background characteristics, CBTS-2, 2016

Characteristics	% No	% Full	N
	immunisation	immunisation	
Age			
<20 years	13.4	40.0	186
20-24 years	12.7	49.9	3345
25-29 years	12.9	49.7	3990
30-34 years	14.9	49.0	1886
35+ years	19.9	40.4	1230
Religion			
Hindu	12.4	50.7	8421
Non-Hindu	20.5	39.6	2216
Caste/Tribe			
SC/ST	13.7	48.3	2884
OBC	15.3	46.1	5850
Other	10.7	55.8	1903
Literacy			
Literate	6.9	58.8	3401
Illiterate	17.3	43.5	7236
SHG membership			
Yes	5.7	59.5	215
No	14.2	48.2	10422
Sex of the child			
Male	13.3	50.6	5608
Female	14.8	45.9	5029
Total	14.0	48.4	10637

Out of the 20 TSU focus blocks, 17 have shown an increased level of full immunisation. The 3 blocks where full immunisation has not improved are Dadrol block in Shahjahanpur district, Rehara Bazar in Balrampur and Myorpur in Sonebhadra. Many of the focus blocks have shown significant improvements in full immunisation. (Table 9)

Table 9: % of children age 12-23 months fully immunise, by block during CBTS-1 & CBTS-2

Block	CBTS-1, 2014		CBTS-	2, 2016
	%	N	%	N
Balrampur (BAL)	30.5	453	39.7	465
Harraiya Satgharwa (BAL)	28.1	800	33.9	544
Rehra Bazar (BAL)	42.6	530	43.1	536
Tulsipur (BAL)	30.7	560	32.2	595
Bhamora (BLY)	46.5	447	54.8	297
Jagat (BUD)	51.3	606	53.2	787
Sahaswan (BUD)	33.4	467	35.2	538
Aliganj (ETH)	36.9	393	40.1	430
Rupaidih (GON)	45.1	430	55.9	535
Bharkhani (HAR)	29.8	638	41.8	301
Ganj Dundwara (KRN)	32.3	524	41.2	799
Sidhpura (KRN)	44.9	495	46.3	409
Bhawal Khera (SPN)	56.9	492	72.2	722
Dadrol (SPN)	59.2	441	48.5	617
Jalalabad (SPN)	58	616	72.2	597
Jamunaha (SHW)	22.8	510	36.8	615
Domariyaganj (SDN)	41.5	540	46	542
Khuniyaon (SDN)	52.4	513	64.7	482
Chopan (SON)	39	510	48	408
Myorpur (SON)	53.4	457	53.1	418
Total	41.3	10422	48.3	10637

BAL-Balrampur, BLY-Bareilly, BUD-Budaun, ETH-Etah, GON-Gonda, HAR-Hardoi, KRN-Kasganj, SPN-Shahjahanpur, SDN-Siddharth Nagar, SON-Sonbhadra

CHILDHOOD PNEUMONIA AND DIARRHOEA TREATMENT

The mothers were asked if their children had suffered from any episode of diarrhoea in the past 2 weeks, preceding the survey date. The prevalence of diarrhoea among children less than 23 months of age is 26%. The mothers were also asked what they had fed to the child when s/he had diarrhoea last time. 14% of the children received ORS during the last episode of diarrhoea, 16% received zinc and 5% both zinc and ORS. (Figure 29)

These proportions increased marginally with the increase in the age of the child.

The mothers were asked if the child had symptoms of Pneumonia in the past 2 weeks, preceding the survey date. The prevalence of Pneumonia among the children aged less than 23 months is 12%. The mothers were also asked if the child was treated with antibiotics when s/he last had symptoms of difficulty in breathing or chest in-drawing, wheezing, along with coughing and having a fever. The results are presented in Figure 30.

Overall, 63% of children were treated with antibiotics when they last had symptoms of Pneumonia and this proportion ranged from 53% among children under the age of 2 months to 64% among children aged 12-23 months.

Figure 29: % of children age 0-23 months who were given zinc and ORS during the last episode of diarrhoea, CBTS-2, 2016



Figure 30: % of children age 0-23 months who were treated with antibiotics during the last episode of symptoms of Pneumonia, CBTS-2, 2016



FAMILY PLANNING

Uttar Pradesh is the most populated state of India with the second highest Total Fertility Rate (TFR) of 3.3 (SRS 2012). The TFR ranges from as high as 5.8 in Shrawasti to as low as 2.2 in Kanpur. One of the key determinants of TFR is the Contraceptive Prevalence Rates (CPR). In the CBTS, women who had delivered recently were asked if they or their husbands were currently using any modern method to delay or avoid pregnancy.

The modern Contraceptive Prevalence Rate (mCPR) is defined as the percentage of women who have delivered in last two years and are now using a contraceptive method or their husbands are using a contraceptive method. The practice has increased from 12% to 15% in 20 poorest performing blocks between two rounds of the CBTS, conducted at an interval of one year. A significant increase in the mCPR was found among women who had delivered in last two months compared to women who had delivered more than 2 months prior to survey. (Figure 31)

In the CBTS-1, women who had delivered in the last 60 days were not asked about methods other than postpartum Intra Uterine Contraceptive Device (IUCD) and Tubal Ligation (TL); hence mCPR for this group for round 1 is not presented.

Figure 31: % of women who had delivered in last two years and currently using any modern family planning method, according to the age of the child, CBTS-1 & CBTS-2



Community Behaviour Tracking Survey-2016: Key Findings

The use of modern contraceptive did not vary much by selected background characteristics among mothers who had delivered in last two years, both in round 1 and round 2. (Table 10)

The older women were more likely to use any modern method in comparison to their younger counterparts. Similarly, membership in a SHG and literacy appeared to be important factors in the use of family planning. The members of an SHG were more likely to be currently using a modern family planning method as compared to non-members (18% versus 15%). Similarly, a greater proportion of literate women were currently using any modern family planning method in comparison to illiterate women. The mCPR was high (16%) among Hindus in comparison to other religious groups (12%).

Table 10: % of mothers who had delivered in last two years and were currently using any modern family planning method, according to selected background characteristics, CBTS-1 & CBTS-

2		
Characteristics	CBTS-1	CBTS-2
Age of the mother		
15-19 years	8.7	9.9
20-24 years	12.5	14.1
25-29 years	12.8	16.4
30-34 years	11.4	16.3
35+ years	10.9	14.5
Religion		
Hindu	12.7	16.2
Non-Hindu	10.7	11.5
Caste		
SC/ST	11.3	15.4
OBC	12.8	14.9
Other/DK	12.1	15.8
Literacy		
Illiterate	11.8	13.2
<5 years	10.4	15.1
5-10 years	12.6	18.0
10+ years	16.3	22.6
SHG membership		
member	19.7	18.4
Non-member	12.2	15.1
Total	12.3	15.2
N	39,860	44,669

Information on the type of contraception methods currently being used by women who had delivered recently and were not pregnant, was collected. It was found that the condom is the most prevalent method (31%) among the husbands of women who had delivered in last two years, followed by traditional methods such as rhythm, withdrawal, and other traditional methods (24%).

The high prevalence of condom use and the use of traditional methods indicate at a huge potential need for more efficacious spacing methods (Figure 32).



The postpartum family planning method is one of the key focus areas in India as well as in Uttar Pradesh. The proportion of women who accepted IUCD or TL has increased from 0.7% to 2.1% between two rounds of the CBTS. The use of IUCD has increased from 0.18% to 1% and TL from 0.55% in CBTS-1 to 1% in CBTS-2. (Figure 33)

In the family planning programme, one key component for the provision of quality care concentrates on family planning related complication management. It was found that the complication among mothers, who had delivered in last two years and adopted IUCD or TL after the delivery, has increased from 13% to 31% between two rounds of the CBTS. Almost two-fifths of those who had complications did

not receive any advice and treatment. (Figure 34)

Figure 33: % of women who delivered in last two years and accepted IUCD or TL after the delivery, CBTS-1 & CBTS-2







The women who were not using any modern family planning method and who were not currently pregnant were asked if they or their partners wanted to have more children. Those who wanted to have more children were also questioned regarding when they preferred having the next child. Based on the responses received for these queries, women were classified into two categories 1) unmet need for limiting (do not want additional children) and 2) unmet need for spacing (want another child after 3 years). It was found that the unmet need for spacing has declined from 28% to 20% while the unmet need for limiting has increased from 19% to 30%. This has resulted in an increase in the unmet need from 48% in CBTS-1 to 50% in CBTS-2 among mothers who had delivered in last two years. (Figure 35)

Figure 35: Unmet need for spacing, limiting and total unmet need among women who had delivered in last two years, CBTS-1 & CBTS-2



It is found that the unmet need is high among older women (30+ years), Hindus, and among illiterate women (Table 11).

Table 11: % of women having unmet need by characteristic, CBTS-2, 2016

Characteristic	% unmet need	N
Age of the mother		
15-19 years	41.7	1,625
20-24 years	44.6	16,300
25-29 years	48.9	16,811
30-34 years	56.5	7,454
35+ years	62.1	4,293
Religion		
Hindu	49.9	36,785
Non- <i>Hindu</i>	48.3	9,698
Literacy		
illiterate	50.5	30,287
<5 years	48.4	930
5-10 years	47.1	11,373
10+ years	49.5	3,893
Member of SHG		
member	51.3	957
Non-member	49.5	45,526
Total	64.4	46,483

ANNEXURE A

ABOUT UTTAR PRADESH TECHNICAL SUPPORT UNIT

The Uttar Pradesh Technical Support Unit (UP TSU) was established by the University of Manitoba in November 2013, with financial assistance from the Bill & Melinda Gates Foundation. The goal of the UP TSU is to support the government to increase efficiency, effectiveness, and equity in the delivery of RMNCH+A services in the state. To achieve the goal, several key objectives have been established for the TSU. These include supporting leadership to focus more on outcomes; improving the performance of Front-Line Workers (FLW); improving the performance, coverage and quality of care offered at health facilities; enhancing accountability systems [internal and external] to ensure quality of service delivery at scale; and improving the overall planning, policy formulation and coordination.

The TSU is focused on achieving 7 major objectives, 5 in health, and 2 in agriculture and financial inclusion. These objectives are:

- 1. Strengthen FLW skills/capabilities
- 2. Build skills/ capabilities of primary care providers
- 3. a) Improve health system management capabilities
- b) Support other critical health-system-level improvements
- 4. Support better stewardship of the private sector
- 5. Help to improve external accountability
- 6. Improve agricultural productivity by improving indigenous state capacity to conduct research into critical areas, and support innovations in agricultural extension and dissemination of technologies, leading to enhanced income at smallholder farm level in Eastern UP
- 7. Enhance financial inclusion by improving government to person payments

About 80% of the TSU's effort is focused on achieving Objectives 1, 2 and 3a. The goal is to "activate" the government system to improve interactions between FLWs and households and communities, and improve the quality of care at first level clinics and referral units up to district level. These activities are performed by the support of staff at state, district, and block level. Objective 3b, 4, and 5 are less intensive in nature but can be catalytic – a combination of policy changes, planning, guidelines and coordination activities that can reduce the bottlenecks that contribute to critical HR gaps, infrastructure or supply chain issues; support the government to be a better steward of private provision and kick start NRHM's framework of external accountability. These activities are primarily performed by the state level staff.

Given Uttar Pradesh's large population, the TSU activities are appropriately scaled according to its need and geography to ensure the achievement of state-level improvements in health outcomes. Accordingly, the UP TSU provides both direct and diffused techno-managerial support at various levels of the health system. The direct support is delivered in 100 prioritised blocks in the 25 high priority districts of the state. In order to affect change at the block level, the UP TSU provides techno-managerial support at the higher levels of health system by providing planning and implementation support at district and state levels.

The UP TSU is a consortium of several organisations, led by the University of Manitoba, Winnipeg, Canada. The consortium members include BBC Media Action, Centre for Advocacy and Research, Clinton Health Access Initiative, EngenderHealth, India Health Action Trust, Janani, John Snow Inc., King George's Medical University, Marie Stopes India and University of Manitoba.

ANNEXURE B SURVEY DESIGN

Sample design

With an objective of providing block level estimates of key indicators, the required sample size per block has been estimated for each survey group based on the observed value of key indicator and expected magnitude of change in the indicator between rounds. Considering the current large inter-district variations in the indicator levels, the required sample varied by district.

In the CBTS, the catchment area of an ASHA is considered as the primary sampling unit (PSU). In each block, a systematic random sample of the required number of PSUs based on the sample size requirement and current crude birth rate in the respective district of the block for women who delivered in the past 2 months, the first survey group was selected from a sampling frame consisting of all ASHA areas in the block. The required number of PSUs for the other survey groups was selected from the already selected ASHA areas for the first survey group.

The schematic presentation of the selection process of ASHA areas for the various study groups is as follows:

(1) Random selection of required ASHA areas for the group - women delivered in past 2 months

- (2) Random selection of required ASHA areas for the group mother with children age 3-5 months
- (3) Random selection of required ASHA areas for the group mother with children age 6-11 months
- (4) Random selection of required ASHA areas for the group mother with children age 12-23 months

Sample identification

During the survey, after reaching the selected ASHA area, the field interviewer first determined the boundary of the PSU. With a random start, the interviewer visited the entire households within the designated area and provided a number to each household. In order to identify the respondents for each survey group a screening questionnaire was administered to all the households depending on the survey groups to be included from the selected ASHA area. Subsequently, depending on the inclusion criteria, all the identified and consented eligible respondents in each survey group were interviewed.

Indicators measured in CBTS

Two types of indicators are measured in CBTS: output and outcome. Output indicators measure the activities on the part of the FLWs/health facilities, whereas the outcomes measure the behavior/utilization of services on the part of the mothers/households. A total of 50 common indicators (in both the rounds) are measured through CBTS – 17 output and 33 outcome indicators.

Survey tools

The survey tools used in the CBTS included a screening questionnaire for mapping and listing all the households in the selected PSUs. This screening questionnaire was mainly used to identify the eligible respondents for various survey groups. A questionnaire each was used for the mother who delivered during the past two months, for mother who has children aged 3-5 months, for mother who has children aged 6-11 months, and for mother who has children aged 12-23 months. Information relating to selected background characteristics, pregnancy outcome, details of antenatal, delivery, and postnatal care, breast feeding practices including supplements, occurrence of

childhood diseases and treatment, childhood immunizations, family planning use, and unmet need for family planning were included in the appropriate questionnaires for different groups of mothers interviewed.

Survey quality assurance

Protocols were established and implemented in order to reduce the potential non-sampling errors in CBTS. These protocols included the following:

- 1. Standardization of the interview method how to ask the questions and how to record the responses through an interviewers' manual that was used for training the field research teams
- 2. Back checks: During the field data collection period in each block, the field supervisor visited at least 2 completed PSUs per interviewer and verified the following:
 - a. Whether the interviewer had visited the PSU at the reported date
 - b. Whether the interviewer had visited the selected ASHA area
 - c. Whether the interviewer has covered approximately all the households within the boundary of ASHA area this was carried out through visiting at random the households in the periphery of the area
 - d. Whether the interviewer has missed any eligible respondent in the ASHA area by visiting randomly the households that did not have any eligible respondent
 - e. We verify the geocodes for the location of interview

If there was error in any of the above criteria, the data collection in that PSU was repeated. In addition to the regular back checks by the TSU field supervisors, the external monitoring, learning and evaluation consortium led by Sambodhi teams also did the back checks and regularly shared their findings with the TSU regarding the CBTS data quality.







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